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	Can read.		Can write.		Can add.		Can subtract.		Can multiply.		Can divide.		Can work in fractions.	
	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.
Shoe factories	39	9	39	9	39	9	38	10	38	10	19	29	5	48
Peddling	4	...	3	1	3	1	2	2	3	1	2	2	...	...
Driving team	3	...	3	...	3	...	3	...	3	...	1	2	...	...
Chair factories	1	...	1	...	1	...	1	...	1	...	1	1	...	...
Beer bottling	1	...	1	...	1	...	1	...	1	...	1	1	...	...
Upholstery factories	2	...	2	...	2	...	2	...	2	...	1	1	...	...
Blacksmith shops	1	...	1	...	1	...	1	...	1	...	1	...	1	...
Cooper shops	2	1	2	1	2	1	2	1	2	1	1	2	...	...
Horsecollar factories	3	...	3	...	3	...	3	...	3	...	3	...	1	...
Machine shops	2	...	2	...	2	...	2	...	2	...	2	...	...	...
Pin factories	54	1	54	1	42	13	32	17	36	19	19	36	9	48
Office boys	3	...	3	...	3	...	3	...	3	...	2	1	1	...
Box factories	7	3	7	3	7	3	7	3	6	4	2	8	...	10
Paper hanger's apprentice	1	...	1	...	1	...	1	...	1	...	1	...	1	...
Cigar factories	19	1	19	1	18	2	17	3	13	7	9	11	3	17
Harness factories	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Book binderies	7	...	7	...	7	...	7	...	7	...	6	1	2	...
Plow works	3	...	3	...	3	...	3	...	3	...	2	1	1	...
Cash boys	44	...	44	...	44	...	44	...	44	...	27	17	11	3
Planing mills	24	2	24	2	24	2	24	2	21	5	14	12	6	2
Printing offices	17	...	17	...	17	...	17	...	16	1	12	5	6	11
Press feeders	8	...	8	...	8	...	8	...	8	...	7	1	...	...
Furniture factories	7	...	7	...	7	...	7	...	7	...	7	...	3	...
Telegraph messengers	7	1	7	1	7	1	7	1	7	1	7	1	1	...
Clerks	4	...	4	...	4	...	4	...	4	...	4	...	2	...
Painters' apprentices	2	...	2	...	2	...	2	...	2	...	...	...	...	...
Trunk factories	2	...	2	...	2	...	2	...	2	...	1	1	...	...
Bakeries	1	1	1	1	1	1	1	1	1	1	...	...	...	...
Errand boys	4	...	4	...	4	...	4	...	4	...	3	1	2	...
Water boys	2	...	2	...	2	...	2	...	2	...	1	1	...	...
Plating works	1	...	1	...	1	...	1	...	1	...	...	1	...	...
Boot blacks and news boys	62	10	62	10	55	17	55	17	54	18	29	43	16	58
Totals	338	30	337	31	317	51	309	59	298	70	184	184	73	208

GIRLS.

*Biennial report of the Bureau of
Labor Statistics of the State of ...*

Minnesota. Bureau of Labor Statistics

Dress maker's apprentice	1	...	1	...	1	...	1	...	1	...	1
Totals	49	3	49	3	49	3	49	3	43	9	24	28	8	4

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SECOND BIENNIAL REPORT

—OF THE—

PROPERTY OF THE
PRUDENTIAL INS. CO.

Bureau of Labor Statistics

—OF THE—

STATE OF MINNESOTA.

1889-1890.

HARRISON & SMITH, STATE PRINTERS,
MINNEAPOLIS.

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LETTER OF TRANSMITTAL.

*To the Honorable the Senators and Representatives of the Legislature
of the State of Minnesota:*

GENTLEMEN:—I have the honor to transmit herewith the
Second Biennial Report of the Bureau of Labor Statistics.

Very Respectfully,

JOHN LAMB,

Commissioner

(RECAP)
HJ 8053
MC

531293

INTRODUCTION.

At no time, in the history of the world, more than at present, has public thought been turned so directly and anxiously toward the solution of the great questions of social and industrial regulation. Not only the workman at his bench, but the student in his cloister, the minister in his pulpit, the philosopher in his studio, and the statesman at the head of affairs (so far as he is differentiated from the mere politician) are directing their best and most mature thought toward the adjustment of the clashing interests of society. As a result of the war of ideas and interests—a strife which, too often, seemed to confuse rather than enlighten—a desire has arisen on the part of thoughtful and judicious men for an exhaustive, painstaking and complete investigation of economic conditions. It has become evident that no further progress can be made toward the mastery of such questions in a rational way upon lines of thought that are wholly speculative or partisan. A demand for facts, as the necessary basis of intelligent judgment in matters so complex and extensive, becomes imperative; and, to the eternal credit of the labor organizations be it said, that, whoever may have thought of it first, they were the first to demand the establishment of bureaus for the gathering and collation of these facts.

A misapprehension, however, prevailed, and does still prevail, in regard to the proper scope and immediate possibilities of such bureaus. There is a very prevalent notion that these offices should do census work; that, in investigating questions, totals for the whole state should be secured. To correct this impression it may be stated that in most lines of inquiry, so far as the main purposes of the bureaus are concerned, this is wholly unnecessary, even if it were practicable. The distinctive work of these offices is that of making special investigations; and the data collected should be only so extensive as may be necessary to determine general principles applicable to the whole state. It, therefore, follows that totals are of subordi-

nate importance in comparison with ratios, a fact which we have kept steadily in mind in gathering and compiling our information,

In the second place there has been a very prevalent idea that it is possible for these bureaus, by a series of inquiries, which, for lack of time and equipment, must needs be somewhat cursory to settle speedily and forever important questions of public policy, which have been matters of serious consideration by thoughtful and earnest men, for generations, and even centuries.

As to this notion, it may be frankly stated that there are three important and disqualifying circumstances in the way of such an immediate and perfect consummation: First, a lack of the necessary equipment to carry on close, careful and exhaustive investigation of any subject; (Legislatures, as a rule, have not a sufficient appreciation of the necessity for accurate information to vote a sum sufficient for the purposes of such investigations); Second, a lack of fullness and accuracy in the original sources of information; and, Third, a lack of experience and fitness in the officers who are chosen to perform these duties. It is time that men should understand that original investigations in any field of inquiry cannot be carried on without expense, nor, with any degree of success, by novices in that line of effort. It might as well be understood, first as last, that the business of handling statistical work is destined to become a science just as surely as law, medicine and theology have become so. The time is coming when quackery in statistical work will be just as reprehensible as quackery in any other professional calling.

Until this time comes progress in statistical work must needs be very slow. I know of no line of work where there is a better chance to grope without definite purpose, to mass a lot unrelated facts without cohesion or intelligent analysis, or to waste time, money and effort in meaningless and unfruitful sensationalism. The field is so vast, the possibility of scattering fire so great, and the temptation so constantly present to do things for the mere sake of satisfying public curiosity, without adding a single point to our scientific knowledge of any question, that unless there is kept steadily in mind the necessity of actually increasing the sum of our present and positive knowledge upon the questions under consideration, the investigation is liable to degenerate into a mere superficial showing,

or the collection of a mass of unrelated and heterogeneous data from which no general laws can be induced.

The great philosopher, Kant has given very lucid expression to the correct principle of scientific inquiry: "Accidental observations, made according to no preconceived plan, cannot be united under a necessary law. But it is this that reason seeks for and requires. It is only the principles of reason which can give to concordant phenomena the validity of laws, and it is only when experiment (investigation) is directed by these rational principles, that it can have any real utility."

It follows, therefore, that a knowledge of the proper methods of procedure in statistical inquiries must be had, in order that the work may have cohesion and purpose, and be kept within the proper limitations for the determination, *pro* or *con*, of the principle proposed for settlement. Clearly, a knowledge of these methods cannot be intuitive, but must be built up and acquired by study and experience. Unfortunately for the immediate progress of statistical bureaus in the United States, there has not been until very lately any special instruction in such work given in the colleges of the country. It was, therefore, necessary that these bureaus should be officered by men from other walks of life who had given no special thought or study to statistical methods. Now the knowledge of these methods constitutes the science of statistics, just as the knowledge of methods of procedure in cases at law or in medicine constitutes the sciences of law or medicine. This knowledge had to be acquired, and, fortunately for the state of Massachusetts where the first bureau was established, and, subsequently, for the United States at large, a man was selected whose mind had a scientific cast, and who was capable of acquiring an enlightened conception of the work which he was selected to do, entirely aside from popular notions which were then, and are, to a considerable extent, now, afloat in regard to it.

Heretofore, the two chief sources of instruction in this country have been the labor bureaus and the United States Census Bureau; but the census work, coming at intervals of ten years, could at best do no more than train men during a brief period, and up to a limited degree of efficiency, when the work would cease and the men be thrown into other lines of occupation, seldom or never to take up the business again.

It is gratifying to know that the colleges and universities are showing a genuine appreciation of the value of such work by instituting departments or classes where statistical science is

taught. From no direction is the demand for reports of these bureaus more regular than from the colleges of the country; and it may be said, also, that by no recipients are the contents of these volumes more carefully studied or more fully appreciated. This is another and a gratifying indication of the tendency of higher education to take a practical turn in giving due weight to the positive, as well as the speculative aspect of social science, and bringing the young men of the country into almost direct relations in their studies with the concrete affairs of daily life.

Perhaps the greatest disappointment to the popular mind in connection with the work of the bureaus is the fact that all questions are not soluble at once and completely by their investigations. In nothing did the speculative thinker show himself more short-sighted than in the indulgence of this expectation. As might be anticipated, he completely lost sight of the fact that the data collected by these offices are things of the past and present, not of the future, and, therefore, the question as to whether any particular scheme of social or industrial regulation will work well in the future can be determined by these bureaus only as far as the trend of facts in the past and present point to similar tendencies in the future, or to the obliteration by the force of necessity of systems which are steadily becoming obsolete and intolerable. Clearly these bureaus can not investigate matters that have not yet transpired. There are no facts obtainable with reference to the future; much less are such offices, in their embryonic state, capable of gathering and collating in a single season or a dozen seasons, a mass of facts as varied and extensive as those pertaining to the relations of man with man. It is the very nature of positive investigations to be slow in their processes, but they more than make up for this in the certainty and permanence of their results.

It is perfectly natural that intelligent people should begin to show evidence of little faith in mere opinions, for contrary opinions upon nearly all questions of public policy are held by men of equal intelligence and honesty. What men need is a basis perfectly full and reliable, upon which to found sound individual judgment entirely apart from the opinions held by other people. It is simply the application of the inductive method of investigation to social science as it has been applied to physical science. It is the positive method of Bacon, Comte and Aristotle applied to questions of public policy. It is the sure method of progress in solving the vexed questions of society. Mere

speculative thought hammers itself against a wall which it can not pass, and when it is confronted with the necessity of handling and adjusting details, finds itself unequal to the task, for it has studied ultimates and not obstacles; it has looked to the goal, and forgotten the pitfalls in the pathway.

Undoubtedly the greatest obstacle in the way of speedy and important results from statistical work is the imperfection in the original sources of information. This imperfection is due partly to the incompleteness of records and partly to the unwillingness of some people to give correct statements in regard to matters which must be known in order that statistics may be reliable and complete. Nowhere does the lack of education among the people become more apparent than in their refusal, in many cases, to give important information bearing upon grievances of which they complain, in order that intelligent action may be taken to remedy such ills. While I write, the agents of the United States Census Bureau are arresting men for refusing to answer the questions on their schedule; so little do men appreciate the value or legitimacy of such information, upon which, in large measure, the policy of our government for the next ten years must be based.

It is plain, therefore, that no small amount of educational work must be done among the people, in order that they may be rid of the notion that knowledge is a bad thing to place in the hands of those who are intrusted with the administration of public affairs. I know of no better way to educate the people out of this notion than to convince them by repeated publications of this information, that they are not only not injured, but that they are really benefited by it. After they perceive this they will be willing to give the information, and statistics will begin to assume a certitude which they cannot have while large numbers of people rather oppose than aid their collection; for it is impossible, in a popular form of government like ours, for public agencies of any kind to accomplish their best work unless heartily sustained and encouraged by the people.

It becomes apparent that these bureaus can not jump, but must grow to their full measure of efficiency, and in so growing public appreciation must, in large measure, grow with them in aiding and sustaining their work. That the country needs accurate and exhaustive information with reference to its industries and the tendencies of social and industrial development no rational man can doubt. That this information is the *necessary* basis of any fair adjustment can not be questioned; and al-

though the task of obtaining such data is neither short nor simple, it behooves the state to secure it, if it is to escape the charge of bungling legislation through ignorance of the subjects under consideration.

It should be apparent that there is a limit to the number of inductions that can be had from a given number and variety of facts; a sum total of aspects in which social or other phenomena can be viewed upon a fixed quantity of positive data. This principle is known in mathematics as the law of permutations, arrangements and combinations. When this limit has been reached further progress in knowledge is impossible, except by the collection and classification of additional facts from which to induce still broader and truer generalizations.

It is said that toward the end of the Middle Ages Europe became word weary—tired of the incessant disputes of metaphysicians who sneered at positive knowledge, and constructed a cosmogony by reasoning from the hypothetical to the positive. Bacon saw the folly of this, and, practically, resuscitated the method of Aristotle. Is there not an analogy between the positive method applied to physical science by these great philosophers and the positive method which is now being applied to the understanding of social questions, by the institution of means to gather data upon which public action can be intelligently based? Is there not also an analogy between the profitless speculations of medieval ontologists and the multitudinous theories of social wrongs, whose actual status can be determined only by positive investigation, and whose cure can be brought about only by practical experiment instituted and carried on upon the basis of this positive knowledge?

It is, indeed, true, that in the investigation of industrial questions we must deal with many forces more subtle, and shifting than those found in physical nature; but apart from these, there is a large field where extensive and substantial knowledge is attainable. In this field lies the work of the statistician; and if this work is carefully and intelligently executed, it will in time furnish to governments, in many departments of their action, as solid and immutable a standing ground, as can be attained by scientific research, in any other department of human activity.

In conclusion I desire to express my obligations to Mr. E. B. Evans, clerk, and Mr. J. P. McGaughey, and Mr. Frank J. Casserly, deputies of the bureau, for faithful and efficient services rendered in the preparation of this report.

JOHN LAMB.

CHAPTER I.

SCHOOL ATTENDANCE.

In investigating the subject of Child Labor, the question as to whether these children, if prohibited from employment, would spend their time on the streets or attend school constantly obtrudes itself; for it is manifestly useless to transfer children from the factory to the street, if, in the latter case, they are to grow up ignorant and contract the vices of the street.

It is not within the purview of this department of the state government to discuss the question of religious instruction for youth; nevertheless, the question of moral training is indissolubly connected with that of intellectual training. In the last analysis a republican form of government is based not merely upon the intelligence, but upon the virtue of the people; but, looking at it from the standpoint of intellectuality merely, it is evident that in a form of government where the appeal upon public men and public measures is made to the ballot of the individual citizen, if that citizen is ignorant the ballot will be ignorantly cast. It may be true that the ballot

“Executes a freeman’s will

As lightning does the will of God;”

but it executes the will of a dunce with equal facility. Inasmuch as the power of ultimate decision on all public questions is thus thrown into the hands of the citizen, it is not merely a matter of duty, but a matter of necessity and public safety to see that the citizen is educated up to such a point that he can use this power intelligently. This means at least the capacity to read understandingly the literature of current public questions. If his attainments are below this, the citizen is not likely to act intelligently on public matters. He does, of neces-

sity, become a follower of some one else. He is compelled to trust men to decide for him what he should be able to decide for himself. He ceases to be, in any proper sense, a co-ordinate part of the government, and, by virtue of his necessary dependence on others, loses a part of his freedom under the forms of liberty. In this way a few men attain power by doing the thinking for great masses of men, and, if the process is carried too far, it results in a plutocracy of intellect and energy, gradually developing into a plutocracy of wealth.

Is it, or is it not, a fact that our young people are being educated up to the standard of reading and thinking people, or do they, as a rule, leave school with a knowledge of the rudimentary instruments of analysis—the three R's—all too meagre to pursue the independent investigation of any question? We complain about the influence of demagogues, and, very often, justly so; but as long as there are masses of ignorant men, so long will there be demagogues to mislead and millionaires to buy. The greatest hope of this country lies in the education of its people. In fact, there is little hope without it. Between the influence of overgrown wealth on the one hand, and ignorant prejudice on the other, the just, thoughtful, and intelligent elements of society stand almost helpless.

As preliminary to the investigation of the subjects of child labor and school attendance in this state, it was deemed advisable to consult such printed records upon the subjects as were available, in order to get clearly in mind the scope and bearings of the questions, and the extent of present knowledge in regard to them, so far as they have been condensed into reports of statistical form.

In order to do this it has been necessary to use the United States Census Reports, the Reports of the United States Commissioner of Education, the Reports of State, City, and County Superintendents of Schools, the Labor Bureau Reports of the various states, and such other sources of information as were accessible. From the mass of this material scattered through some 50 volumes, I have condensed the following facts and statements:

According to the Tenth Census Report the whole number of persons 10 years of age and upwards in the United States in 1880 was 36,761,607. Of these persons 4,923,451, or 13.4 per cent. were unable to read, and 6,239,958 or 17 per cent. were unable to write. Of these illiterates by far the largest number was in the Southern states, Alabama, Arkansas, Florida, Georgia,

Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia having 3,762,279 persons, or 30.7 per cent. of their population over 10 years of age who could not read, and 4,610,605, or 37.7 per cent. who could not write. It is further shown that 8.7 per cent. of the native white people in the United States were unable to write, as against 12 per cent. of the foreign-born white persons, while 10.7 per cent. of white girls, and 13 per cent. of white boys from 10 to 14 years of age, inclusive, were unable to write.

According to the report of State Superintendent Kiehle, for 1888, the estimated school population of the state between the ages of 5 and 21 years was 416,550. Of this number 258,727 were enrolled in the public schools. By the age tables of the United States census for 1880, it appears that the number of persons from 5 to 21 years of age, in this state, was 289,028. The number of persons from 6 to 14 years of age was 152,892. Dividing we find that the number of the latter age period was 52.9 per cent. of the number of the former. Applying this ratio to the school population for 1888, as estimated by Mr. Kiehle, we have 220,355 as the number of children between 6 and 14 years of age resident in the state.

The question now arises, what proportion of these 220,355 children attend school? The law of this state requires teachers to report the number of those between 8 and 16 years of age, and the statistics for this state are, therefore, for that age period. I have been unable to find any statistics, except in the single case of the city of Detroit, Mich., by which a comparison can be made between the number in attendance at these two age periods—7 to 14 and 8 to 16—both in the public and parochial schools. In the public schools of Minneapolis the number of those attending at the latter period is only 87.5 per cent. of the number attending at the former, showing the strong tendency, in this city, for pupils to drop out at an early age. In view of the fact that the statistics for Detroit include all classes of schools, it has been thought best to make the estimate according to the ratio given by the figures for that city. By the Detroit tables the school attendance between the ages of 6 and 14 is 19,408. The number of those between the ages of 8 and 16 is 19,073, a difference of 2 per cent. in favor of the former. Adding this 2 per cent. to the 116,707, the number reported by Mr. Kiehle as attending school three months during the latter age period, we have 119,041 as the number of those attending the public schools between the ages of 6 and 14.

We have not yet, however, considered the private and parochial schools. The only data that I find in regard to these schools, for a whole state, is in the Massachusetts census report for 1885 (beyond all comparison the finest piece of statistical work ever executed in this country). From the enumeration of pupils in schools and academies not public, and students not attending any school in Massachusetts during that year, it appears that the number of such persons was 34,675, or 11.3 per cent. of those attending the public schools. Taking this as a basis in Minnesota, and assuming the same conditions with respect to age and attendance as for the public schools, we find, by increasing the number of those between 6 and 14 attending the public schools by 11.3 per cent. that a total of 132,493 pupils between 6 and 14 years of age attended school three months or more during 1888. Deducting this number from 220,355, the estimated school population of that age, we have a balance of 87,862, or 39.9 per cent. of the children of that age period who did not attend any school three months during 1888. In view of these deductions I think it is entirely safe to say that more than one-third of our future citizens are growing up with scarcely more than the pretense of an education.

Does this seem to be overestimated?

Turn to page 62 of the report of the United States commissioner of education for 1886-87, and there will be found a table showing, for each state and territory, the number of pupils in average daily attendance to each 100 of enrollment, and on this table Minnesota stands 49.17—the lowest on the list excepting Alaska—the average for the whole country being 64.13. Superintendent Kiehle thinks this is largely due to the practice of making a very full enrollment in this state for the purpose of drawing apportionment. It is well that the fact can be explained in some way, for, standing unexplained, it does little credit to Minnesota. It is a somewhat redeeming feature that there are 14 states and territories below Minnesota in the number of pupils in average daily attendance to each 100 of population between 6 and 14 years of age, but nevertheless Minnesota stands in this respect 57.62 as against 67.32 for the whole country.

Perhaps the most important table in the report of the commissioner of education is the one on page 64, showing the total attendance and duration of schools. It is to be regretted that the educational statistics of the United States are in such a deplorably confused and incomplete condition. The basis upon

which they are collected varies in different states, so that upon many important points comparisons are impossible, either between the states themselves, or between any one state and the whole country. In the table referred to the total attendance in days for each state reporting is divided by the number of school population from 6 to 14 years of age, the result showing the number of days tuition that each child of that age period would have received had the total days of school attendance been equally divided between them. The average for the thirteen states reporting total attendance is 100.89 days. Massachusetts stands highest, her average being 194.79 days.

As to the number of those who fail to attend the days required to draw apportionment, I quote a few statements from county superintendents in this state. The superintendent in Lyon county says: "When 22 per cent. of the number enrolled fail to attend the 30 days required to draw apportionment, and 48 per cent. of those between 8 and 16 years of age fail to attend the 60 days demanded by the compulsory law, I think there is need of still more work." The superintendent in Otter Tail county says: "In this county, last year, the school term averaged 5.7 months, with a total enrollment of 8,754. Of this number only 3,579, or 40.9 per cent. attended three months or more during the year, 1,932, or 22 per cent. failed to attend, even for the short period of 30 days. With such showing what can be said of progress? How is it possible to make it? Apathy, indifference, and other pursuits appear to outweigh all consideration of the value of common school education."

Turning, now, to Supt. Bradley's report for the year ending June, 1889, we find a much better state of affairs in Minneapolis with respect to regularity of attendance. Although the ratio of enrollment to school population is only 31.1 per cent., the ratio of average number in daily attendance to enrollment is 73.7 per cent., while the ratio of attendance to average number belonging is 95.6 per cent. The table showing the ages of those in attendance is very suggestive. More than one-third drop out of school before reaching their 15th year.

By a resolution of the 21st general assembly of the State of Iowa, the superintendent of public instruction was requested to embody in his report for 1886-87 an exhaustive treatment of the subject of compulsory education. From his investigation I take the following table of per cents. of school population

attending school, and adults who can read, in various countries :

TABLE I.

COUNTRIES.		Per cent. of school popu-	Per cent. of adults who
		lation attend'g school.	can read.
Austria.....	Compulsory	68	40
Bavaria.....	Compulsory	112	86
Belgium.....	Compulsory	86	86
Denmark.....	Compulsory	92	84
England and Wales.....	Compulsory	68	84
France.....	Compulsory	73	.....
Hungary.....	Compulsory	73	40
Ireland.....	Compulsory	66	67
Italy.....	Compulsory	42	41
Netherlands.....	Compulsory	81	86
Norway.....	Compulsory	86	87
Portugal.....	Compulsory	32	34
Prussia.....	Compulsory	91	94
Russia.....	.....	8	11
Saxony.....	Compulsory	101	88
Scotland.....	Compulsory	91	88
Spain.....	Compulsory	54	34
Sweden.....	Compulsory	78	87
Switzerland.....	Compulsory	93	88
Wurtemberg.....	Compulsory	91	88
COMPARED WITH -			
United States.....	.....	63	88
Mexico.....	.....	12	7
New Brunswick.....	.....	105	.....
Nova Scotia.....	.....	80	.....
Ontario.....	.....	97	.....

It will be seen that in the matter of school attendance the United States is below 16 of the European powers, and New Brunswick, Nova Scotia, and Ontario, though in the matter of illiteracy we stand as well as any nation except Prussia, which, in this respect, leads the world. Superintendent Akers explains the high standing of the United States and England in the ability of the people to read and write by the universality and cheapness of books and newspapers. In this regard we seem to stand as high as Wurtemberg, although it is said that "no child in that country above 6 years of age can be found unable to read and passably well to use the pen and pencil, and having some technical skill."

I think it will be admitted that sufficient evidence has been adduced to show that something should be done to raise the conditions of elementary education in this state; but what shall it be? Here there is some difference of opinion among the people, but little, that I can find, among experienced educators.

The testimony of experience in European countries is to the effect that much can be accomplished by compulsory laws, if judiciously drawn and administered with discrimination. The school statistics of the city of Glasgow, Scotland, where there is a local compulsory measure, and where there has been no material increase in population during the years specified, show that from 1873 to 1882, inclusive, the percentage of average attendance to those enrolled has increased from 81½ to 84.3 per cent. the number of those in attendance from 43,803 to 62,467, and the number enrolled from 53,796 to 74,024. It is said that of the 20,000 children in that city who attended no school in 1873, there were but 3,000 out of school in 1882.

In his report on compulsory education, Superintendent Akers, of Iowa, says:

"Public schools and compulsory school attendance are, it would seem, ideas of twin origin. Even though schools are open and free for all, all children will not attend. This startling paradox is easy to explain. Ignorance is not only unapprised of what will make for its good, but, in addition, has clinging around it an environment of idleness and shiftless living which it very reluctantly throws off. Parents of low organization, and hereditarily under the whip of circumstances, have the higher interests of their children very little at heart, and will keep them grinding in the cruel mill of necessity where their own vices, possibly, have imperious sway, until the years of school opportunity have gone by forever, and the great army of illiterates gets them as recruits. The number of these is always discouragingly large, and without some influence from above, laying hold of them with a firm but beneficent hand, they are not likely to decrease. The knowledge of this fact would naturally suggest compulsory measures in connection with a project to establish public schools, and keep more or less active a public effort in this direction through all the subsequent years.

In closing the report of his investigation, Supt. Akers says:

"To say the least, there must be a strong presumption in favor of an educational measure in which all the leading nations of the world are enlisted, and which has almost the unanimous advocacy of the teaching profession, and of those public officials who are best informed as to the necessities of the case. In face of this, there is everywhere acknowledged difficulty in putting a compulsory school law into force. A close study, however, of this kind of legislation will make two things apparent, both setting aside any objection to the law on the score that it can not be enforced. *First, wherever boards of education have been empowered to employ a special officer or officers, whose business it should be, under some systematic method of search and report, to find out the defaulters, and get the children to school, the end contemplated by the law has been gratifyingly attained.* It has been suggested that this officer be partly police and partly missionary, but mostly missionary, as being more in keeping with the kind of work he has to do. And this suggestion brings us to the second most important lesson from the study we have had in hand, namely, *that for the ends of public well being a proximate and provisional enforcement of a compulsory school law is all that should be desired.* In the language of one of our most eminent educators, Dr. Welch, compulsory education should not be reckoned of value simply to the extent to which it can be rigidly enforced, but in the main it should be prized because of the 'compulsory environment' it throws round the ignorant and the dilatory, and the general public interest it arouses in the cause of education as lying also at the very heart of the national life."

Supt. Kiehle, in his report for 1885-86, referring to the failure of the compulsory law in this state, says:

"The more children there are in any given district who do not attend school, the more probable it is that no one in the district will take the trouble or endure the odium necessary to the enforcement of the law. There should be a truant officer in the city and a constable in the country, whose duty it would be to attend to the enforcement of the law."

"It follows that if the property of the state is taxed for the support of the schools, the parents of the children are under a corresponding obligation to give their children the benefits provided. The school may be trusted to cultivate an interest when once the children have been brought within its influence; but nothing but the compulsion of law will reach those parents who are so indifferent of the future welfare of their children that they will not send them to school, and, as a consequence, often leave them to grow up in idleness and subject to all the temptations of vice."

Supt. Bradley, of Minneapolis, says in his last report:

"No reference has been made in previous reports to the problem of reaching certain classes of children who do not attend the schools. The theory of a common school, supported by a common tax, is, that all have an interest in the general intelligence. The sovereignty of the state implies its right to compel all classes to avail themselves of the education which it provides, or of other educational opportunities. It implies that there is a certain amount of knowledge which all should possess, and it insists that the cupidity or neglect of parents shall not deprive its future citizens of such intelligence as is necessary to loyal citizenship. It is greatly to be regretted that the bill introduced into the last legislature, to prohibit child labor, did not become a law. In all the New England states, and in most of the other Northern states, provision is made by statute to compel the attendance at school for a certain specified portion of each year of every child within certain limits of age. A law is needed, with proper machinery for its enforcement, requiring that all children between 8 and 15 should attend school throughout the year."

And here I wish to accentuate a statement of Dr. Bradley's:

"Undue emphasis has sometimes been placed upon the mere ability to read and write. The child needs to learn to think. He needs to know how to read discriminatingly. Careful investigation reveals the fact that but few of the children who leave school in the early years of the course do so from any necessity of earning a livelihood. Far more frequently they leave because they are restless and tired of school, and their parents do not appreciate the importance of thorough education. It is an undeniable fact that to a large extent the children control the parents instead of the parents ruling the children."

COMPULSORY ATTENDANCE.

It may be questioned whether the effects of compulsory education laws have been yet fairly tested in this country, owing to the lack of machinery, or the imperfection of the machinery for the execution of such laws, or the crude construction of the laws themselves.

We will present, however, the testimony of American educators—now engaged in the practical work of conducting schools—as to the necessity and advisability of such laws, and show, as far as possible, by such testimony, the results of such laws, their weakness, and the objections to them where any appears.

We will then present, from the best sources available, a

review of the results of compulsory laws in Europe, as far as they can be separated from other causes tending to increase school attendance. In the study of this question, we have derived great aid from the "Report of the Royal Commission to inquire into the working of the Elementary Education Acts (England and Wales,) 1886," and the Special Report on Elementary Education in Germany, Switzerland, and France by Matthew Arnold, Esq.

Following is the testimony of American educators, presented with unusual fullness, to show the universality of sentiment among teachers with reference to the abuse of non-attendance and its remedies:

In his report for 1876, the Commissioner of Education says:

The American teacher cannot with safety fix his eyes upon his text book and pupil to the neglect of these broad views. He works where all these antagonistic forces converge, and where they must first be harmonized. He must inculcate the sentiment and encourage the customs which are to be the surest safeguards against the destructive conflicts arising between the two forces, capital and labor. Nor can he perform the task alone. These great interests must intelligently foresee the coming danger, and provide the means by which the whole power of education in the family, the school, and society can be arrayed against social earthquakes. In no sphere is the law of prevention more applicable. Instead of understanding and acting intelligently in view of the facts which bear at this point, the capitalist has, in not a few instances, sought retrenchment, first in the reduction of teacher's wages and the consequent circumscribing of his opportunities to ward off impending danger, and in some instances he has found the hands of labor willing to do his bidding by dropping the ballots through which his purpose has been accomplished. Teachers must not only have the means to do their work well for those who come to the school now, but their numbers must be increased, and they must be sent abroad among those who are as yet entirely unreached by instruction. The security and perpetuity of our institutions rest so exclusively on the individual choice, that reason, conscience, and the high sentiments of every soul should be brought into play and properly informed, that, so far as these influences may go, every person in the land may not only know what is the better part, but choose it and be prepared to sacrifice himself to defend it. In such a universal sway of intelligent reason and enlightened conscience the questions of capital and labor, as they necessarily arise in the progress of human society, will find the most peaceful solution. So also of those questions which arise between races, between political parties, and between religious sects. *In each case the issue is relieved of embarrassment just so far as ignorance and prejudice are eliminated, and the mass of minds called into action are amenable to the influences of right reason. We shall be fortunate as a people if we can see in season that all laws, indeed that all schemes which leave out of view the single idea of training up a child in the way he should go, will prove inadequate—mere makeshifts, in dealing with the evils of great social catastrophes.**

Too often educators recognize their responsibility only with reference to those on the rolls of the school; rather should they be possessed of the spirit of the fathers, who did not allow a single child to grow up without the knowledge of letters. Education should not only be sufficient in amount and good in quality, but it should be universal. No child ought to be permitted to grow up without its benefits. It is the single cesspool, the single case of the contagious disease, that, neglected by sanitary customs, may imperil the whole city. So, under the operation of the social

*The Italics are ours.

and moral nature of man, the children or the single child not subjected to well directed instruction, may become the origin of evil which shall imperil every dollar of property, every life, and the character of every individual in the community. Educators must contemplate the whole body politic. Occasionally a school officer or teacher may have no personal knowledge of neglected or perverted child-life. Indeed, in the view of any one, the amount of neglect may appear small; but let him gather the total in any county in the country, and add to that the rest in the State to which it belongs, and increase this by the neglected child-life in the remainder of the nation, and he will have before him an accumulation of the possibilities of evil that should rouse the attention of the most selfish and indifferent. We have no measures that can give us a just and adequate conception of these possibilities. All illustrations are inadequate. Even our standards of intelligence are imperfect; but taking that of reading and writing, as I have before had occasion to say in pointing to these perils: "Three hundred thousand votes are a large majority in any election for President of the United States. The determination of the election, therefore, is practically in the control of less than 300,000 voters, or less than one-sixth of the practical illiterate voting population." How often are we told brain power or intelligence directs the multitude! A mass of ignorance is always a temptation to the designing and evil. They appeal to the passions and prejudices of the ignorant. The more intelligent and virtuous a people, the more they judge for themselves, and the less are they subject to leadership. Suppose the illiterate voters should combine, or that designing leaders should succeed in appealing to their blind prejudices and draw them into associated action, so as uniformly to throw them upon the same side in any of the great issues in the nation or in the several States where they constitute a large force, how readily they could determine any question at their pleasure! In several States the illiterate voters are clearly in the majority, according to the census of 1870. The evils that may arise from the ignorance actually in our midst no one can exactly describe. Their premonitions are every now and then manifest. There is no greater source of social and civil disorder than ignorance. Writers of every age have used the strongest terms at their command to characterize it. Adam Smith likened ignorance, spread through the lower classes and neglected by the state, to a leprosy, and says, "Where the duty of education is neglected, the state is in danger of falling into terrible disorder." His declaration was speedily illustrated by the English riots of 1780. Macaulay graphically describes what occurred: Without any shadow of a grievance, at the summons of a madman, a hundred thousand people rising in insurrection; a week of anarchy; Parliament besieged; * * * the lords pulled out of their coaches; the bishops flying over the tiles; thirty-six fires blazing at once in London; the house of the chief justice demolished; the children of the prime minister taken out of their beds in their night-clothes and laid on the table of the Horse Guards; and the cause of this calamity was the "ignorance of a population which had been suffered, in the neighborhood of palaces, theatres, temples, to grow up as rude and stupid as any tribe of tattooed cannibals in New Zealand, I might say as any drove of beasts in Smithfield market." But we need not go abroad for such scenes of horror and their lessons. We have seen the police of the city and the authority of the State powerless before the mob during the anti-negro riots in New York, Memphis, and New Orleans, and peace and security enforced only by the presence of national bayonets.

Should anywhere a local majority become, as we conceive it may, hostile to law, and disregard its demands, we readily understand the effect upon those in any such community who obey and support law; they are in antagonism to the lawless; their property and lives are at the mercy of the passions of the madmen around them; incendiary fires consume their dwellings; thieves steal their herds; marauders gather their crops; and submission is the only and at best but an uncertain chance of escaping the assassin's knife or bullet, or the halter of the midnight band. All local law trampled under foot, where can they, where will they, look but to the central government? The more this condition is extended, the greater the call

for the enforcement of the nation's laws or the exercise of its military force. The rule of law must prevail; if it does not by local sentiment, both local and general interest will demand national action. Centralization is less likely to occur in a republic through the assumption of authority by the ambitions, than to be produced by a condition of civil evils which suggest it as a cure. Dr. Draper affirms that the Roman Empire was produced out of the republic less by the ambition of the emperors than by the evils from which the empire was supposed to be a relief. Our statesmen should be too observant of these dangers to allow themselves to be overtaken by them. They must foresee the evil for us, and enable us to avoid it. The citizen owes allegiance to the National Government; and the nation, if local lawlessness imperils his property and life, must protect him.

Take away education, and what means remain? As Macaulay observes: "Military force, prisons, solitary cells, penal colonies, gibbets—all the other apparatus of penal laws. If, then, there be an end to which government is bound to attain, if there are only two ways of attaining it, if one of those ways is by elevating the moral and intellectual character of the people, and if the other way is by inflicting pain, who can doubt which way every government ought to take?"

AUTHORITATIVE OPINIONS.

In this connection I cannot forebear presenting the following profoundly suggestive extract from Professor Huxley's address before the Johns Hopkins University:

You are making a novel experiment in politics on the greatest scale which the world has yet seen. Forty millions at your first centenary? It is reasonably to be expected that at the second, these States will be occupied by two hundred millions of English speaking people, spread over an area as large as that of Europe, and with climates and interests as diverse as those of Spain and Scandinavia, England and Russia. You and your descendants have to ascertain whether this great mass will hold together under the forms of a republic, and the despotic reality of universal suffrage; whether State rights will hold out against centralization without separation; whether centralization will get the better without actual or disguised monarchy; whether shifting corruption is better than a permanent bureaucracy; and as population thickens in your cities, and the pressure of want is felt, the gaunt spectre of pauperism will stalk among you, and communism and socialism will claim to be heard. Truly America has a great future before her; great in toil, in care, and in responsibility, great in true glory if she be guided in wisdom and righteousness; great in shame if she fail.

Mr. Matthew Arnold, one of the inspectors of Her Majesty's schools, in his "Higher Schools and Universities in Germany," has said some things for the benefit of the English people that we can appropriate with the slightest possible modification.

"The study of continental education will show our educated and intelligent classes that many things which they wish for cannot be done as isolated operations, but must, if they are to be done at all, come in as parts of a regularly designed whole. * * * * * Our educated and intelligent classes, in their solicitude for our backward working class, and their alarm for our industrial pre-eminence, are beginning to cry out for technical schools for our artisans. Well informed and distinguished people seem to think it is only necessary to have special schools of arts and trades, as they have abroad, and then we may take a clever boy from our elementary schools * * * and put him at once into a special school. A study of the best continental experience will show them that the special school is the crown of a long co-ordered series, designed and graduated by the best heads in the country. * * * These foreign governments, which we think so offensively arbitrary, do at least take, when they administer education, the best educational opinion of the

country into their counsels, and we do not. This comes partly from our disbelief in government partly from our belief in machinery. Our disbelief in government, makes us slow to organize government perfectly, for any matter; our belief in machinery makes us think that when we have organized a department, however imperfectly, it must prove efficacious and self-acting. The result is that while, on the continent, through boards and councils, the best educational opinion of the country * * * necessarily reaches the government and influences its action; in this country there are no organized means for its ever reaching our government at all. The most important questions of educational policy may be settled without such [opinions] being even heard. A number of grave matters affecting public instruction in this country—our system of competitive examinations, our regulation of studies, our whole school legislation—are at the present moment settled, one hardly knows how, certainly without any care for the best counsel attainable being first taken on them. On the continent it is not so; and the more our government is likely, in England, to have to interfere in educational matters, the more does the continental practice, in this particular, invite and require our attention. * * * * There are two chief obstacles, as it seems to me, which oppose themselves to our consulting foreign experience with profit. One is, our notion of the state as an alien intrusive power in the community, not summing up and representing the action of individuals, but thwarting it. * * * * The other obstacle is our high opinion of our own energy and prosperity. This opinion is just; but it is possible to rely on it too long and to strain our energy and our prosperity too hard. At any rate our energy and our prosperity will be more fruitful and safer, the more we add intelligence to them; and here, if anywhere, is an occasion for applying the words of the wise man: "If the iron be blunt, and a man do not whet the edge, then must he put forth more strength; but wisdom is profitable to direct."

Perhaps no man carries more weight in his reflections on governmental policies than Lord Macauley. By many he is thought to be the most profound and brilliant historical writer of modern times. We, therefore, feel at liberty to add another quotation from his pen upon this most important question:

"I say, therefore, that the education of the people ought to be the first concern of a state, not only because it is an efficient means for promoting and obtaining that which all allow to be the main end of government, but because it is the most efficient, the most humane, the most civilized, and in all respects the best means of obtaining that end. This is my deliberate conviction, and in this opinion I am fortified by thinking that it is also the opinion of all the great legislators, of all the great statesmen, of all the great philosophers of all ages and of all nations, even including those whose general opinion is and ever has been to restrict the functions of government."

We have testimony that comes nearer to the homes and hearts of American workingmen than the writings of Macauley. Says T. V. Powderly, referring to the thirteenth principle in the K. of L. platform:

"The end sought for in carrying this declaration into effect is not that the child may live in idleness; it is not that more adults may be employed. It is that the child of the poor man may be enabled to acquire an education to equip him for the duties which will in future fall upon him as a man and citizen. We can not afford to pass this question by and legislate upon some simple question of trade discipline. *The question of child labor and education is the most important that can come before us now or at any other time.* With an education all things are easy of accomplishment; without it hope itself almost dies and liberty is a farce. The sword may strike the shackles from the limbs of the slave, but it is edu-

cation and organization that makes of him a free man. He is still a slave whose limbs alone have been freed."

Says the Territorial Board of Education of Dakota:

"Education the defense of the state.—We recognize the influence of education upon the individual, in the family, the church and society, but do we not overlook the fact that it is the defense of the state? Education is, in the highest sense, the charge of political society. It is so important an agency as to justify compulsion on the part of the state. To education the state must look for trained patriotic citizenship, for the promotion of morals among the people, and for assurances for continued progress in everything that is wise and beneficent in our present civilization. The state should guarantee to every child a good education, and compel the attendance of those who would voluntarily absent themselves, or whose parents, through motives of avarice or neglect, would prevent attendance. The obligation of free education is with the state, and no local influences should be permitted to deprive any child within the state of some opportunity for at least an elementary education. It may be opposition to free public schools, it may be poverty caused by drought or cyclone, it may be extravagance in taxation, it may be the general neglect of local officers; no matter. In any case the state should step in with some funds and provide a school for a short time, and enforce the attendance of all children of school age."

Says Superintendent Finger, of North Carolina:

"Public education not a matter of charity.—Very frequently we hear the statement that it is robbery to tax one man to educate another man's children. This sentiment prevails to some extent everywhere, I suppose, and those who hold it regard public education as a *charity*. They are, perhaps, willing to dole out a little education to the poor on the same principle that they would give them a loaf of bread to keep them from starving.

"Such persons reason from other premises than those which the founders of our Republic used in support of public education. The foundation of public education is *broad statesmanship* and not *charity*. The friends of the public schools in the past, and now, do not think that our property or our lives are safe in the hands of ignorant voters, and they do not think that our free governmental and religious institutions can long exist without liberal provisions made by the state for the education of all the voters. They believe that the rich man, who does not even think enough of the public schools to patronize them by sending his own children to them, is made richer by them, in that he is made securer in the possession of his wealth, and that verily his contribution to them "does not impoverish him."

"Besides, it is a fact that any man may know by a little investigation that general intelligence and material prosperity and power go together. We have in our own country many illustrations of this fact in the history of states and communities. I need not point them out. Perhaps Prussia affords one of the most notable illustrations of this fact."

Nearly all important questions of social regulation are complex. In fact the general knowledge which even very intelligent citizens are supposed to possess must, in dealing with the minutia of affairs, be supplemented by the special knowledge of the expert. The blunders and failures of many popular and well meant efforts are due to the fact that men are so prone to act on general, rather than special knowledge. Some one has said that "principles are general but affairs are specific." On the general principles of public utility and safety; on the broad grounds of justice to the child, and self-preservation for the

State, it will be generally admitted that every child should be guaranteed an education; but when we come to deal with the evil of non-attendance specifically we find it due to a variety of causes, only a portion of which can be reached in this country by any system of public regulation short of directly supporting and controlling the child, or imposing upon the parents arbitrary rules, which, with the prevalent notion that parents have a right to bring up their children in such a manner as they see fit, would be regarded as unjustifiable and tyrannical, by a large element of our population. Herein lies the necessity for the very full presentation of views by practical educators who have had some experience in trying to secure attendance by various plans, including compulsory laws. When this testimony is examined I think it will be admitted that truant officers should have considerable discretionary power, should be as much missionaries as constables, and be as free as possible from political obligations to parents in their respective districts. It will also be seen that the efficiency of teachers, their power to awaken interest and enthusiasm, the attractiveness of the schools and other influences must contribute their quota to the general result. One of the greatest vices of human thinking is the strong tendency to attempt the cure of social diseases, having their origin in a variety of causes, by the application of a single remedy to a single one of these causes.

Such modes of action are, generally, due to a lack of specific and thorough knowledge in regard to the question to be dealt with. We should avoid such hasty and ill-considered methods in dealing with the delicate adjustments of our social organism.

The following from the Report of Superintendent Powell to the Board of Trustees of Public Schools of the District of Columbia, for 1887-88, is worth quoting as bearing upon the general subjects of causes of non-attendance and remedies:

"It constitutes, in my judgment, a very just and timely statement of the whole question.

The teacher should know the value of sequence, continuity, and determined effort, and should seek to impress their importance upon the mind of every pupil, and should be estimated by his knowledge of causes of absence or tardiness rather than by the percentages made in either of these by his pupils.

The educating forces of the cultivated home and of society are so numerous and so valuable as auxiliaries for broadening and making practical the work of the schools that absence or tardiness occasioned by desire or opportunity may sometimes be excused in the pupil seeking these advantages. I would not encourage irregular attendance. Such is not the purpose of my writing. I wish only to emphasize the advisability and fairness of distinguishing between absence occasioned by carelessness of pupil or parent and that occasioned by opportunity and desire to profit by other valuable means of cultivation. Furthermore, I wish to emphasize

the importance of recognizing the possibilities of the less fortunate of those who send to our schools, and to avoid, if possible, debarring from school privileges, even for a part of a week or a part of a day, any who may be detained from school occasionally to aid an indigent parent in the support of his family or to assist a poor, hard-working, self-sacrificing mother in caring for an infant brother or sister for a part of the forenoon.

To know the cause of absence, to detect, encourage, and reform the careless and the wayward, to know and to strive to reform the criminally careless and indifferent by all legitimate means should be encouraged in and made possible to our schools.

I believe that the percentage of attendance, as shown by our records, is as good as it ought to be with our present facilities for knowing the causes of absence and tardiness, and that a more stringent enforcing of our present rules would do more harm than good.

The discrepancy between the whole enrollment of pupils and the average enrollment of pupils demands more serious consideration. The whole enrollment was 34,850; the average enrollment, 28,553. This means that every month in the year, on an average, the monthly enrollment was 6,297 less than the entire enrollment of the schools. Now, many causes operate to produce this result. Many children are enrolled in the schools who leave the city and thus leave the schools; many children are enrolled in the upper grades of schools who leave to engage in the active pursuits of life, to become bread-winners; many children leave to go to other schools; some leave because of sickness or death. But, after considering all possible legitimate causes for withdrawing from the schools, it is undoubtedly true that many absent themselves from school by the consent of their parents or because of slight restraint of parental authority who pass their time in idleness or in corrupting indulgences and pastimes that lead to debauchery and criminality.

To more perfectly understand this subject it may be looked at from another stand-point. In the census taken by Col. William G. Moore, major and superintendent Metropolitan police, and his assistants, June 15, 1888, by order of the honorable Commissioners of the District of Columbia, the following facts are found:

Whole number of inhabitants, 218,157.

Whole number of children of school age (from six to seventeen years, inclusive,) 51,500.

Whole number of children enrolled in public and private schools (public schools, 34,850; private schools, 3,119,) 37,969.

It is well known that very many persons of school age, embraced in this enumeration, have passed through the schools and graduated therefrom; that very many others have attended the schools for a longer time than would be required by any existing compulsory law in the states; others are educated at home, and still others are not in school because they are invalids. Yet there must be some who do not go to school at all, and others who go for so short a time that no permanent good is obtained by their attendance.

In looking at this subject I call your attention to the fact that the difference between the school population of the District and the average enrollment in the schools should be considered rather than the difference between the school population and the whole enrollment, the former of which is 20,389 and the latter 13,531.

No community is safe in the presence of an unemployed, aimless, or purposeless element. The larger such element the greater the danger to the community. No community can safely permit any portion of the population of school age to be idle and purposeless.

The remedy, so far as the schools can furnish it, lies first in affording school accommodations for all who ought to go to school; not basement rooms, dark, damp, and unwholesome, not garrets, not rented stables, not contracted school rooms, with low ceilings and no ventilation, not school-rooms to be shared by two sets of pupils, one in the forenoon, the other in the afternoon. These are not inducements; these are barriers; these ill

compare with the allurements to vice and sin; these are meagre in comparison relatively with the inducements that must elevate a free people, for the eternal must that elevates the freeman is ever in front alluring, and never behind compelling.

The remedy, on the part of the schools, lies next in doing efficient and interesting work, so varied as to suit the capacities of all the children, and to meet the requirements of our composite nationality and our varied modes of life and advanced industries. The child should see something that he wants. If he does he will ask for it.

The question we should be able to answer is: How many of this large number of children of school age not in the schools ought to be there? Another question should be asked, to be honest: Are any of these absentees driven from the school, after being enrolled therein, because of methods for obtaining high percentages? These questions can not be answered with our present facilities for knowing. I believe a less rigid enforcement of our rules for attendance, with our present possibilities for knowing the causes of absence or tardiness, would result in the encouragement of carelessness or indifference that would be hurtful. I am not prepared to believe, however, that we are doing all that ought to be done to bring into our schools all that should be there.

Several experiments have been made in county schools during the last two years. In several cases it was found that a large number of children of school age in the respective localities was not attending school. The reasons for this non-attendance were sought by the teachers, who visited the homes of the children, and were found to be—

The indifference of children;

The indifference of parents;

The poverty of parents (inability to buy school books or proper clothing.)

In but few cases was it found that children were detained at home to assist in the support of the family. Many parents were induced by these visits to send to school, and in every case the schools whose teachers had thus canvassed were filled to overflowing by the efforts thus made. No force was employed; none was necessary. The schools were filled by a better method. Now, it must be remembered that these teachers did this canvassing or visiting as extra work, after school hours. I wish here to express my appreciation of their efforts.

If we could have a truancy agent, whose duty it should be, by direction of the superintendent or other specified authority, to seek out the absent or tardy, the cause of whose shortcomings can not be known by the teacher, I believe that most children who ought to be in school might be caused to attend without arbitrary compulsion. I am sure, at least, that many children who do not go to school at all might thus be induced to attend, and equally sure that many children who are dropped from our rolls because of our rules regulating attendance would return to school and thereby would the aggregate attendance be greatly increased, and the number of those who would not be reached so reduced as to be well-nigh inconsiderable.

Until now, a suggestion to increase our school attendance would have been looked upon in the light of a jest, as we have not had room for those who presented themselves.

A truant law without a truancy agent would be inoperative. A truancy agent, by skillful management under wise direction, would accomplish everything desired. I suggest this mode of dealing with truancy and non-attendance as one that is economical and in harmony with the underlying principle of free schools."

With truant officers who are interested in their work, and teachers who are willing to make some effort outside of school hours to induce children to attend, there would seem to be very little need for harsh and arbitrary measures. It would perhaps be well to have legal authority vested in these truant officers, which could be used in extreme cases; but if the persuasive powers were used on parents and children, with their full knowledge that there was legal power to support the action of the officer, the experience seems to be that the necessity for resorting to force would seldom arise.

We present the following from the Illinois School Report for 1887-88. It is also a conservative and just statement of the question:

SHALL THE STATE COMPEL CHILDREN TO ATTEND SCHOOL?

"Free schools are supported at public expense because the welfare of the country would be endangered by the growing up of a crowd of children uneducated and unaccustomed to self-restraint. The danger is intensified by the fact that many of these are to become voters. It is claimed that in self-defense the State must, if possible, prevent such a calamity.

Inasmuch as the expense of establishing free schools has been incurred by the State, the question very naturally arises whether the State has not the power to insist upon measures that will make the schools effective. Having prepared the remedy for the impending dangers, may it not insist upon the use of the remedy?

Neglect of school privileges may arise from either of two causes. The child may be kept from school by the parent's act. The parent may either neglect the duty of sending the child to school, or he may, in a spirit of selfishness, try to profit from the child's labor, and thus intentionally prevent the needed training.

But the evil may arise from the child's own misconduct. He may defy parental authority and become a truant.

In both forms this evil of non-attendance at school is manifested. Some parents disregard the rights of their children in this respect. Some children in a spirit of reckless disobedience, spurn the opportunity for schooling which is offered to them. Of this we have many sad proofs. In every city, great and small, it is the universal testimony that many children fail to attend school. And not only in cities but also in rural neighborhoods. The evil seems to be on the increase. Many letters have recently been received at this office, more than ever before in the same length of time, asking how the compulsory law already on our statute book may be successfully enforced. On this subject, therefore, the public is beginning to be aroused. A sense of danger pervades the community.

By the report herewith published, there were in the State of Illinois, in the year 1888, 1,118,472 persons between the ages of six and twenty-one. From the tables for 1888 it appears that of these only 751,349 were enrolled in the public schools, and 100,265 in private schools. This leaves a balance of 266,858 between the ages of six and twenty-one that are not enrolled in any school, public or private. Of course we understand that many of these have finished their school course, after acquiring what may be called a reasonable education. That is, there are many persons under the age of twenty-one who may reasonably be excused from attendance at school. But I do not think that the number equals 266,858. According to the laws of mortality, we know that of the children living at six years of age, a very large proportion die before reaching twenty-one; so that of those who have finished their school work at fifteen or sixteen, and are counted in the census as persons of school-going age, the proportion is less than the number of years would indicate. From sixteen to twenty-one is five years; from six to twenty-one is fifteen years. But the number of persons between sixteen and twenty-one is not one-third as large as the whole number between six and twenty-one.

From the same report of the State Superintendent it appears that 1,745 persons, between the ages of twelve and twenty-one, were unable to read or write. Now nobody believes that the number here reported is equal to the number of actual cases, or anywhere near it. There is a strong disinclination to report such cases. Every pains is taken to prevent the census-taker from recording them. Parents dislike to proclaim the ignorance of their children, and young men and women dislike to proclaim their own. These figures are, therefore, in all probability very far below the truth.

From all this the fair inference is that there is urgent need of action in this matter. This injustice to children is more or less prevalent. In the cities its presence is felt. But the evil is by no means absent in the country. A kind of intellectual stupor appears to have seized a large part of

our population. They are not as sensitive as they ought to be to the value of a good education; they are not as apprehensive as they ought to be of the dangers that threaten us through ignorance; they are not as conscientious as they ought to be in doing justice to the rising generation.

The presence of this danger may be inferred from the laws enacted in a large number of states and territories aiming to compel the attendance of children of a suitable age at the public schools. In these laws we discern a startling recognition of this great peril. But they also exhibit great sensitiveness to popular prejudices, and a dread of encroaching upon the liberty of the citizen. In most cases the laws appear to have been copied from a common original. They provide that children between certain specified ages shall be required to attend school a certain number of weeks in each year. The attendance is to be upon a public school, unless it can be shown that the child receives instruction either at home or in a private school, or for some reason ought to be excused. For neglecting to comply with the requirement of law, the parent or guardian is subject to a fine. And in some cases, as in our own state, the school officer is himself liable to a fine for not enforcing the law, when he has been notified of its infraction.

But the report from most of these states is that the law has very little effect. In many cases it is substantially a dead letter. The school officer dislikes to begin legal proceedings against the delinquent parent. The tax-paying citizen dislikes to prosecute the officer for a failure to perform this duty. Thus the entire machinery is paralyzed. Nothing is done, and thousands of children are growing up without the benefit of the intellectual training and the moral culture imparted in our schools.

Now what shall be proposed as a remedy for this draw-back in our educational machinery? How shall we diminish the evil of non-attendance at school? This is the larger and the essential question.

Whatever can be done to secure this result by the voluntary action of parents and children is in the first place to be preferred. In educational processes "moral suasion" is always the best instrumentality so far as it can be made effective. If children can be induced to attend school by an appeal to the higher motives in themselves and in their parents, so much the better. In this there would be a double education. The wielding of the moral influence would be in itself a high educative process, and in addition to this there would be all that the child could be induced to learn at school. The motive appealed to in the education of the young should always be the highest that can be made effectual. But the difficulty about the higher motives is that they do not appear to be always efficient. It is a noble thing to refrain from stealing, because stealing inflicts an injustice upon one's neighbor. But in some minds the desire to do justice to one's neighbor is not strong enough to deter them from stealing. For such there must be law with painful penalties annexed.

Undoubtedly the best remedy for this evil is an elevation of the public sentiment on the subject of education. The apathy exhibited by many parents is perhaps the very worst phase of the whole question. And if parents are thus unconcerned about the education of their children, we are not surprised to find other persons more so. The consequence is that the community is pervaded more or less by a lack of interest in this great question. Our people give too much of their thought and of their effort to mere material interests. Intellectual and moral needs are not felt as they should be. Schools seem to be regarded as a sort of luxury which may with little inconvenience be dispensed with. What is needed is an awakening of the public sentiment, an uplifting of the standard for intellectual and moral attainments. If our people could be brought to see clearly the worth to a child of a thorough education, and the worth to the community of a truly educated child, we might expect great results. And this high appreciation ought to become general. It is not enough that occasionally a citizen entertains it. *It ought to pervade the community, so as to make itself felt in elections, in the tone of the newspapers, in the public utterances of influential men.** If the community were sufficiently awake on this sub-

*The italics are ours.

ject the discussion of a compulsory education law would be unnecessary. A strong public sentiment always secures its own recognition. If the people were brought to a proper plane of thought and feeling on this subject we may almost say that school laws would become unnecessary.

Whoever, therefore, can arouse the community to a right state of thought and feeling concerning the education of the children of the community, is able to accomplish more than all legislation in establishing good schools, and in securing a full attendance upon them.

This, then, is our first and noblest remedy for the ills of which we complain. Every teacher who can arouse and sustain the interest of his pupils, every school officer who can stimulate his fellow citizens to higher ideals, every man or woman who can demonstrate the worth of a thorough culture, and thus show what the true interests of the community demand, in short, every one who can stir the feelings or enlighten the intellects of the great body of citizens on this subject, has in his hands the possibility of great good.

The influences thus far spoken of for increasing the attendance upon our schools may be considered as moral in their nature. There is no legal compulsion involved in the methods proposed. For that reason they will in many cases fail. There are people who can be constrained to perform their duty as citizens only by the fear of penalties. For such, legal remedies have been suggested, and in some States used. In the State of Massachusetts the school committee in each town is required by law to appoint a truant officer or officers, and to fix the compensation of the same. These officers, under the direction of the school committee, inquire into all cases of truancy or failure to attend school. They are authorized to make complaint of violations of the law in regard to compulsory attendance, to carry into execution the judgments rendered when the suits are decided, and to serve all legal processes, etc. These officers receive no fees for such services, but are paid a regular salary by the authority of the school board. And any minor convicted under the law of being an habitual truant, or of wandering about in the streets and public places of a city or town, having no lawful employment or business, not attending school, and growing up in ignorance, shall be committed to any institution of instruction, provided for the purpose, for a term not exceeding two years.

The institutions of instruction here meant are county truant schools. They seem to be a kind of reform school in which the educational element is the predominant one. When three or more towns in any county require it, the county commissioners are directed by the law to establish one or more institutions at the expense of the county. Three counties may unite in the establishment of such a school. Neither the jail nor the house of correction can be used for such schools in any case. The institutions are to be under the control of the county commissioners, and in the case of a union of several counties, under the control of the chairmen of the different boards.

In a private letter received a few days since from the Secretary of the Board of Education in Massachusetts, I am informed that *this method of dealing with truants and non-attendants at school has been found very efficient,** and that it is considered a necessary and most helpful part of the educational machinery.

In some States, also, we find laws prohibiting the employment of children below certain fixed ages in mills and factories. One of the motives that lead parents to violate the educational rights of their children is the desire of pecuniary gain. This desire they seek to gratify by compelling the children to earn small sums by labor in manufacturing establishments. For the pittance thus earned they are willing to withhold from them all intellectual training,—all development of their mental faculties. This practice it is certainly just to forbid by law. It is a crime against the children whose rights are thus violated. It is a crime against the State in which these untrained children will one day be citizens. Both a sense of justice and a reasonable anxiety for its own safety will impel the State to denounce heavy penalties against the unnatural practice.

*The italics are ours.

In the State of Illinois thus far the amount of harm done to children by too early an employment in mills has not been very great. Our manufactures have not been sufficiently developed to make this iniquity very common. But in this particular our danger is increasing. Our manufactures are enlarging. The temptations to such an unnatural employment of children are becoming more numerous. It is, therefore, right that we take measures to prevent this evil before it comes upon us in full power.

In some States there has been organized a system of State police whose business it is to see that the law in regard to the employment of minors in mills is not violated.

In some States, also, general agents are employed who visit the different schools in the State. In their visits they are accompanied by members of the school boards. The records of the school are submitted to their examination. Knowing beforehand the population of the district represented by a given school, they are prepared to judge whether the attendance at that school is reasonable. If it does not seem to be so, if the numbers seem to be too small for the population represented, this fact is urged upon the attention of the school authorities, and measures are immediately taken for a thorough investigation, and for a correction of the evils, if any exist.

Of course, this makes a very thorough matter of the attendance upon schools. But it is none too much so for the exigencies of the case. The people of the state are taxed for the support of universal education. Faithful teachers devote their energies and their lives to the work. And if the State has the right forcibly to tax its citizens for the support of these public schools, it should have the right to see to it that the benefit from them is not thrown away,—that the instruction undertaken at so great a cost actually reaches those for whom it was intended.

It may not be advisable just at this moment to attempt to establish, in this State, all the instrumentalities just referred to. Illinois has already done nobly in the extension of her public school system, as well as in the care of her unfortunate classes. To step forth at one bound into the establishment of a system of truant schools might be regarded as involving a reckless expense. Besides, a matter of this kind ought to be agitated before an attempt is made to put it into practical execution.

But it seems to me that we may reasonably attempt some progress. Our present law for compelling attendance at school is confessedly inefficient. It is doubtful whether this law has caused an increase in the attendance upon our schools of one hundred pupils. If we are to have such a law upon the statute book, it ought to be executed, and in its execution to accomplish good. If it is not executed, it ought to be repealed, and if it is so defective that no good can come of executing it, then we ought to have a better law.

The bill that will be presented in both houses of the legislature is thought to be, in some respects, at least, better than the present law. And the hope is that when this bill comes up for consideration, and is fully discussed, all necessary amendments will be supplied and the bill will be rendered efficient.

It is to be regretted that there is so little statistical matter bearing upon the operation of compulsory laws in this country. We present the following from the 47th Annual Report of the Board of Education of the City of New York:

TABLE II.

SCHEDULE.

Showing a Summary of the work done by the Agents of Truancy during the year.

Total number of visits made.....	43,280
To homes	32,405
To schools.....	8,134
To stores, factories, etc.....	2,741
Total.....	43,280
Total number of cases investigated and closed.....	15,969
Children kept at home by parents.....	5,573
" " " sickness.....	2,560
" " " poverty.....	81
" taught at home.....	5
" mentally or physically disqualified.....	27
" transferred from one school to another.....	530
" under 8 and over 14 years of age.....	441
" withdrawn from school (left the city).....	75
" " " (gone to work)....	301
" whose residences could not be found.....	1,707
" found to be truants and returned to school.....	3,189
" found to be truants and committed to reformatory institutions by parents, through Agents.....	36
" found to be non-attendants and placed in school....	1,425
" found to be non-attendants and committed to reform- atory institutions by parents, through Agents.....	18
" committed to New York Juvenile Asylum.....	1
Total.....	15,969

TABLE III.
SCHEDULE SHOWING THE INDIVIDUAL WORK OF THE RESPECTIVE AGENTS DURING THE YEAR.

	F. H. Page.	Jas. Rogers.	John F. Walsh.	A. C. Martinez.	Theo. Reeves.	Wm. Fleming.	M. H. Philip.	Wm. Kitchell.	J. S. Ketchum.	J. W. Curtin.	V. Cristalli.	J. F. Reidy.
Total Number of Visits made. } To Homes } " schools. } " stores, factories, etc.	3,697 812 236	3,233 568 33	4,192 584 39	1,834 1,120 148	2,449 660 105	1,989 1,113 1,951	1,741 297 43	3,277 734 123	1,819 958	3,742 381 16	1,812 636	2,620 271 47
Total.....	4,745	3,834	4,815	3,102	3,214	5,053	2,081	4,134	2,777	4,139	2,448	2,938
Children kept at home by parents.....	568	813	780	344	467	481	393	312	362	398	385	270
" " " sickness.....	259	190	383	235	201	211	211	302	146	183	140	99
" " " poverty.....	.....	.....	.....	.....	9	69	1	.....	.....	2	.....	.....
" taught at home.....	.....	.....	.....	3	.....	1	.....	.....	.....	1	.....	.....
" mentally or physically disqualified.....	.....	1	.....	.....	1	7	1	2	.....	13	1	.....
" transferred from one school to another.....	40	32	32	47	80	82	37	49	47	1	76	7
" under 8 and over 14 years of age.....	40	67	.....	49	50	136	.....	4	18	18	34	25
" withdrawn } Left the city.....	12	.....	.....	13	3	21	5	7	.....	.....	14	.....
" from school } Gone to work.....	38	.....	70	1	15	17	63	55	.....	26	14	2
" whose residences could not be found.....	86	175	272	156	160	139	100	116	124	120	217	42
Truants returned to school.....	331	231	343	310	335	123	161	412	245	306	195	197
" committed to reformatory institutions by parents, through Agents.....	3	6	.....	6	3	.....	1	7	5	.....	3	2
Non-attendants placed in school.....	160	180	210	149	93	49	38	198	57	121	107	63
" committed to reformatory institu- tions by parents, through Agents.....	3	1	5	.....	4	.....	.....	1	3	1	.....	.....
Committed to New York Juvenile Asylum.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	1,541	1,696	2,095	1,314	1,421	1,336	1,011	1,465	1,007	1,190	1,186	707

The following is a letter from Professor Sherman Williams, Superintendent of Schools, Glens Falls, New York, concerning special investigations made by him with the object of preparing a compulsory attendance law:

GLENS FALLS, N. Y., December 2, 1887.

Hon. A. S. Draper, Superintendent of Public Instruction:

DEAR SIR:—I send you to-day, by express, all that I have received upon the subject of truancy that can be of any possible interest to you, and some letters that will probably be of no interest. I expect to receive quite a number of communications during the next two weeks, which I will forward. I thought it well, however, to send on now such as I had, together with a statement of the conclusions I had reached.

I have received replies from nearly all the state superintendents. Very few of the states have done anything in the way of legislation upon this subject. Some have made provision for getting children *out* of school, by providing that they may be excluded, whenever they are absent or tardy, a given number of times without sufficient excuse.

"Another effort to enforce the Compulsory Education Law is being made by the Child Labor Inspector. The local authorities are required to give assistance by law; but they are slow in yielding it. Back of all is the fact that many of the towns have not sufficient school accommodations."

The above item, quoted from a city paper, and relating to a New Jersey town, is one of many of like import that appear from time to time. These, several letters received, much information that I get, our meeting at Rochester, all taken together convince me that school men generally recognize the evil, but shrink from grappling with it, and that for this reason no merely permissive law will avail anything; still I cannot comprehend how any thoughtful man, with the statistics before him, can help feeling aroused and determined to put forth his very best efforts to secure a good elementary education to all the children of the State. I do not believe there is any other question at all comparable with this, as to influence upon the well-being of the state, and I do not believe that I hold this view because I am a teacher, except in so far as being a teacher tends to make me better acquainted with the facts. Would it not be well if the Legislature could know the number of children of school age, and the number of school sittings in the cities and large towns; also the number who have been refused admission on account of lack of room in New York, and possibly other cities, and such other facts as would make it easy for them to comprehend the situation?

As to legislation, I believe that upon all subjects there should be as little legislation as possible; but that when legislation becomes necessary, the law should be clear, comprehensive, and mandatory. It should be somebody's duty to enforce it, and that somebody should be subjected to severe penalties in case he failed to perform that duty. I believe a compulsory education law should cover the following points:

I. All children over seven and under fifteen years of age should be compelled to attend school at least twenty weeks each year. (It is not quite clear to me that this ought not to be made twenty-eight weeks.)

II. All children over seven and under eighteen years of age should be compelled to attend school all the time it is in session unless they are at work. (The point aimed at here is this: However important it may be that children should attend school, it is even more important that they should not be idle and upon the streets.)

III. All persons should be forbidden to employ children under fifteen years of age, unless they had a certificate from the proper person (perhaps a truant officer) to the effect that they had attended school as the law required. Violation of such law should be punished by a fine of not less than ten, nor more than twenty-five dollars for each offense, and by imprisonment if fine was not paid.

IV. Parents and guardians who fail to send the children under their charge to school, as required by law, should be fined not less than five, nor more than ten dollars for each offense, and imprisonment if the fine was

not paid. But if parents or guardians claimed that they were unable to control the children under their charge, and satisfied the officer before whom they were brought that this was the case, they should not be fined; but the children should be taken from their charge. (I think it very important that all action should be against parents, and that so far as possible all the stigma should be borne by them, as is right.)

V. Incorrigible truants and idlers, and children whom parents and guardians cannot control, should be sent to a special school provided for them, where they should be detained and instructed until they were eighteen years of age, or until such time that the instructor in charge recommended their dismissal either, on the ground that they would probably conduct themselves properly, or that they had become so vicious as to be a serious damage to the school, in which case some provision should be made for sending them to a reform school. The school of detention should be as homelike as possible. Perhaps it would be better if it were upon a farm. School authorities should be allowed to locate such school out of the district if they deem best. The school authorities should be compelled to establish such a school if needed, and some arrangement should be made whereby several districts, or a whole town, or several towns, or a whole county might unite in the establishment and support of such a school. Such a plan would be somewhat expensive, but I believe it to be essential to reclaiming children who have gone wrong, but who have not yet become criminals. I am sure that it would very greatly lessen the number of criminals. Some provision should be made for securing suitable persons to have charge of these schools. There is no part of the whole plan of compulsory education which I deem as important as this.

VI. The various school authorities should be required to appoint as many truant officers as they think necessary, and fix their compensation. They should hold office during the pleasure of the school authorities.

VII. It should be the duty of the truant officers to make a list of all the children under their jurisdiction, who were over seven and under fifteen years of age, and another list of all who were over fifteen and under eighteen years of age, and to revise and correct each list as often as once in six months. In case any one employed children contrary to law, or if any one failed to send the children under their charge to school as the law required, it should be the duty of the truant officer to notify such persons of the fact that they were not complying with the law, and state what the penalty was; then, in case the violation was continued or repeated, it should be his duty to arrest the violator of the law and take him before a justice of the peace or the proper officer, who should, in case the charge was proven, impose fine or imprisonment as required.

VIII. The annual reports of school authorities to the State Superintendent should contain answers to such questions as would show whether the law had been complied with, and in case it had not, the public money should be withheld.

If State support of schools is warranted only on the theory that the welfare of the State demands it, then of all classes it is most important to reach truants and idlers, and the State should not help any locality that does not reach these classes.

IX. Children who were required by law to attend school, might attend public, private, or parochial schools or academies, or might be instructed at home by a competent teacher; the school authorities in the latter case should be satisfied that the instruction was real, not a sham. Possibly some other schools, industrial schools or the like, should be included here. Perhaps attendance at evening schools should be accepted after a certain age, provided the pupil was at work during the day. Teachers of all schools should be required to keep a list of all pupils in attendance, and a record of such attendance, and to report to the truant officer, whenever he required it, any fact regarding the attendance of any pupil.

X. In case of insufficient school accommodations it should be the duty of the school authorities to hire rooms temporarily. In case of neglect or refusal on the part of those upon which this power devolves to raise sufficient funds to erect buildings suitable and sufficient to accommodate all the children who are in attendance, the public money should be withheld until such buildings are provided.

XI. Children should be excused from attendance at school on a physician's certificate that they are physically unfit to attend.

XII. Deaf, dumb, blind, and idiotic children coming under the provisions of the law should be sent to the proper State school for such children.

XIII. Fines collected under such a law should go to the fund providing for the enforcement of it.

XIV. The school authorities should have power to raise funds necessary to the complying with the various provisions of the act.

XV. Any willful violation of the law on part of school officers, or willful neglect of duty on their part in enforcing the same, should cause the withholding of the public money. (This is a penalty easily applied, and will, I think, prove all-sufficient).

I have no doubt that a general discussion would lead me to believe in making a good many changes in the plan I have stated, but it is in accordance with my present light upon the subject.

Very respectfully yours,

SHERMAN WILLIAMS.

We print here some testimony on the subject of truant schools, which, from the best testimony, seem to be a necessity to the successful operation of compulsory attendance laws.

From the Report of the Commissioner of Education, 1887-88.

INCORRIGIBLES AND HABITUAL TRUANTS.

School officers in those States in which compulsory attendance laws are enforced encounter difficulties in the discharge of their duties that are comparatively unknown in other States. Compulsory laws cause the enrollment of large numbers of children whose previous training is chiefly of the kind that fosters vice, and whose surroundings outside the school-room are only such as encourage a distaste for restraint and an utter disregard for authority. All public schools must contend more or less with this class of pupils, but they are naturally more numerous and troublesome in the schools in which the attendance of all children of every class is compelled. They do not attend at all unless they are obliged to do so, and when forced to present themselves at school they take no interest in their studies, seek only to hinder the progress of others, and take advantage of every pretext to absent themselves from their duties. How to manage such children is one of the gravest questions with which school men have to deal. They must not be excluded from the schools entirely, but their influence tends to demoralize better disposed scholars, if instructed in the regular schools. They should not be committed to reformatories or other institutions for criminals, for they are not criminals, and association with vicious characters can only prove detrimental to them.

The most satisfactory means of dealing with incorrigibles of this stamp is believed to be the establishment of "truant schools," under the management of men peculiarly fitted for such work. The following quotations indicate the reasons for such belief:

"In September, 1885, the truant school was established. The design of this school was to provide a place where the habitually truant boy, the mischievous and ungovernable boy, the newsboy, and the bootblack who must have a portion of school time for their work, where all these could be suitably instructed and firmly controlled.

"The good effects of the school were immediately apparent. Habitual truants and the incorrigible were speedily gathered into this school, and punishment and suspension ceased elsewhere. The good influence of this school was not only felt, but it became tangible in reports. In previous years suspensions for inexcusable absence and for misconduct had averaged about 240; in 1884-85 they were 225; in 1885-86 they decreased to 98, and in 1886-87 to 92, while corporal punishment became a thing of the past.

"There can be no question as to the wisdom of the board in establishing this school, nor as to its restraining and reforming power over all the schools of the city." [Superintendent C. B. Thomas, East Saginaw, Mich.]

"As much less complaint of truancy has reached me than in former years, it would seem probable that the existence of the county truant school has exercised a salutary influence, and though truancy is by no means obsolete in this town, I have no hesitation in saying that the school is of great value in restraining it, and trust that the institution may be kept up." [Superintendent T. H. Day, Pittsfield, Mass.]

"I find that since it has been possible for the town to use the truant school it has been much easier to bring the truants into school." [Mr. Charles L. Frink, truant officer, North Adams, Mass.]

"I also desire to call the attention of the board to the demand for some means of separating the incorrigible and demoralizing class of pupils from those who attend school with unobjectionable habits and morals. This should be done without turning them into the street. My recommendation is that a separate school be established for truants and those who require corporal punishment. One teacher could do this work for the present, and it should be one of the most capable and conscientious teachers obtainable. Pupils should be transferred to and from this school in accordance with such regulations as may be established, and a truant officer should be appointed to assist in enforcing these regulations. * * *

I believe this measure would be of great benefit to our schools." [Superintendent D. C. Tillotson, Topeka, Kans.]

"I also recommended that we avail ourselves of these provisions of the statutes, and that for this purpose we invite two or more of the neighboring municipalities to join with us in a petition to the county commissioners for the establishment and maintenance of a school to which truants, and in case the Legislature shall give the requisite authority, those pupils 'who persistently refuse to comply with the reasonable rules and regulations of the schools' may be sent for discipline and instruction.

"Another year's observation and reflection have strengthened my conviction that the need of such a school is imperative, and that the best interests of our schools require its establishment. I again respectfully commend the subject to your consideration." [Superintendent Thomas Emerson, Newton, Mass.]

"The number of actual truants in our school is very small, but the difficulty of dealing with them is just as perplexing as if their number were larger. The absence of a suitable institution for the confinement, discipline, and instruction of habitual truants makes a great deal of work for the truant officers. They have no effectual means of inspiring the boy with a wholesome respect for their authority, and thus to enforce his attendance at school, except the fact that if caught he will be returned to school; nor can the committee devise any means to assist the officers in the absence of a truant school, which are not objectionable because of their dangerous results. Boys who play truant are not criminals, and cannot be treated as such. They stay away from school simply because they do not like the restraint which constant application to study requires. If they should be sent to the State Reform School, or any similar institution, the stigma upon their character may turn them into the very path from which they should be kept.

"At the same time, their absence from school, wandering about the streets, inculcates idleness and shiftless habits, and leaves them to engage in evil practices which may lead to criminal acts. The scholars who attend school and are inclined to truancy, seeing that the efforts of the officers to return absentees to school are vain, become emboldened, and try playing truant themselves, and the result is to extend the evil of truancy among those scholars who are at first inclined to attend school regularly. So long as public officers dawdle with a question of so much public importance as the establishment of truant schools, we shall be without a remedy for this evil." [From the report of the School Committee of Marblehead, Mass.]

"The confining in reformatories of children between eight and fourteen years, who have committed no crime, but who refuse to obey parents, and allowing them to associate with older children who have been committed for crime, appears to be a very grave matter. On this account very few children are committed each year.

"To remedy this evil it seems to be necessary that a reformatory school should be established, under the direct control of the board, for the discipline, instruction, and reforming of habitual truants and non-attendants. In this school the children should be taught some business or trade, so that when they leave school they will be fairly equipped to gain a livelihood." [Superintendent John Jasper, New York City.]

"No provision has yet been made for truants and incorrigibles. The superintendent, in annual reports and in monthly communications to the board, has urged the necessity of establishing a school where such persons could be taught and trained. The public school principals have also advocated such a measure. This question is of vital importance, not only on account of those who need special training, but, also, and in larger measure, for the sake of all our pupils whose character depends so much upon their association with each other.

"The great majority of children are obedient and well trained; they should not be in danger of contamination by a vicious element. A city home should be established, to which children who need a special training could be sent for instruction and reformation, but not as criminals for punishment. They should be obliged to live there, undergoing a regular system of duties and instruction, subject to rules appropriate to the institution." [Superintendent Clarence E. Meleney, Patterson, N. J.]

"In my opinion, a special school should be established in this city, into which confirmed and persistent truants should be sent and confined for a reasonable length of time, as a punishment for non-attendance at school. Many parents and guardians who fail to properly discipline their children, either from negligence or want of ability, or who have lost control over them, would welcome such an institution, and heartily indorse the plan. It should not partake of the character of a penal institution, except in the feature of confinement for a reasonable length of time, and children should be admitted only for truancy or refractory conduct in the regular schools. As soon as an inmate could give a satisfactory guarantee of future good conduct and faithful attendance in his regular school, he should be discharged, and taken into a regular school on probation.

"I believe, as I have said in a previous report, that the knowledge, merely, of the existence of such a school, would largely deter truancy.

"Such a school would never become large, and need not incur a great expense, while its benefits to the school system would be immense in the way of discipline, not only to the truant element of the school, but to the whole department.

"But there is another view of this subject to be considered, and of far more seriousness than the mere absence from school of the truant and his educational loss. It is the moral view. Truancy in many cases is the first step toward the walks and haunts of criminals. Many at first well-disposed children are indulged in 'playing the truant' by kind parents, and, occasionally, by careless or indifferent teachers, until they come in contact with the 'street Arabs,' who skulk, from place to place, watching for an opportunity to pilfer or commit some depredation, and thus become the tyros of State criminals." [Superintendent James F. Crooker, Buffalo, N. Y.]

"Inexcusable absence, tardiness, and truancy are rife in too many of our schools. This last-named evil is still rampant, for our incorrigibles know too well that until a truant school becomes a tangible entity, or the Lawrence Industrial School can take all of Lynn's truants, they are free to defy all law and order. Some of our citizens view this desire for a truant school as a mere sentiment or convenience on the part of teachers and school officers, believing that it is an effort to rid schools and teachers of a few unruly boys, assuming that if schools are attractive and teachers loving and amiable there will be no truants. We can fully assure all such opinionated advisers that if they will give one week of thorough personal experience to this whole matter, with us who know the 'ins and outs' of truancy, they will find that the attractive school and the amiable, loving teachers are sweets that truants do not cry for, do not long for. No person unacquainted with the proclivities of these children and their various conditions and circumstances in a city like

Lynn, is qualified to ascribe to mere sentiment or convenience any effort of teachers or school officers to suppress truancy. Our city swarms with habitual and incorrigible truants, whom parents can not induce or the law oblige to go to school. * * * They are becoming the worst class of juvenile offenders, some figuring as petty thieves, burglars, and vagrants. Not until Lynn, as a city, insists that the county commissioners comply with the statute requirements, will there be a truant school established, unless Lynn is forced to build one in self-defense, and which it well can do with pecuniary as well as great moral benefit." [Superintendent O. B. Bruce, Lynn., Mass.]

"Provision has already been made for the confinement, discipline, and instruction of habitual truants. Is it not equally important that a law be enacted under which a child who attends school, but who persistently violates the rules and regulations necessary to secure the object for which schools are maintained, shall be dealt with in a similar manner? The truant suffers personal loss when out of school, but does not occasion loss to those who attend; while the persistently disobedient and refractory pupil profits little, if any, by being in school, and seriously interferes with the progress of others. In dealing with such pupils at the present time, the only means available as a last resort is to expel them from school, and by so doing make them companions of the truant, thereby defeating the very object sought to be accomplished. A year ago an effort was made to secure a change in the law relating to truancy, so as to include among the classes of children affected by its provisions those who persistently refuse to comply with the reasonable rules and regulations of the school. * * *

"The importance of securing these amendments can not be realized except by persons familiar with the work of schools. It is often the case that a single boy, by his repeated acts of disobedience, almost monopolizes the time and vitality of the teacher, and thereby deprives the other pupils of the instruction to which they are entitled. Such boys are the *anarchists* of the school community, and should be treated as the worst enemies of its order and welfare; but the means of dealing with them are insufficient. There can be no worse policy than to let them remain where their presence is a constant injury to others. It is hoped that during the coming session of the Legislature the proposed amendments will be adopted, and the incorrigible pupil, as well as the truant, provided with 'a suitable place' where he can receive instruction without interfering with those who are disposed to make good use of their school privileges. * * *

"By statute all cities and towns are required to provide themselves with suitable places for the restraint, discipline, and instruction of truants. In Cambridge, and in many other cities and towns, the almshouse is the place to which truants are sent. But there is a general feeling that an almshouse is not a proper place for the confinement of this class of children. A truant school should be one of rare excellence, and all the surroundings and influences should be helpful. In the management of our truants at the present time there is no cause for complaint, for the superintendent of the almshouse is an exceptional man for such a position. The objections lie in the character of the place, and in the fact that the school is but an adjunct of the institution, and from the nature of the case must be considered of secondary importance." [Superintendent Francis Cogswell, Cambridge, Mass.]

The following able presentation is taken from Superintendent La Follette's Indiana Report for 1887-88. It brings into clear relief the difference between apparant attendance and real attendance:

COMPULSORY EDUCATION.

The teachers and school officials of the state have, by formal expressions, repeatedly called the attention of General Assemblies to the apparent necessity for the enactment of a law for compulsory attendance upon the public schools, and have emphasized the vital importance of such legisla-

tion. I wish to earnestly invite your consideration of the actual conditions in our public schools that make the enactment of a strict law for compulsory attendance most urgently desirable. As may be noticed by reference to the synopsis of school statistics of the state at the close of this communication, the state was possessed, at the close of the school year upon the 31st day of July, 1888, of 9,882 school-houses, valued at \$13,491,872.81, and school apparatus of the value of \$809,942, being a total value of \$14,751,814.81. The total school revenue for the school year ending at the same date was the sum of \$5,235, 031.98. In other words, the state has in round numbers made a permanent investment in school property of \$15,000,000, and expends annually for school purposes the sum of \$5,000,000. By reference to the same data it will be noticed that for the school year ending in 1887 the total enumeration of children between the ages of six and twenty-one amounted to..... 760,529
 Enrollment for same year..... 508,875
 Average daily attendance..... 387,194
 For the year ending in 1888 the enumeration was..... 756,989
 Enrollment for same year 514,463
 Average daily attendance 408,775

In other words, for 1887 the average daily attendance was apparently 50 per cent. of the enumeration and 76 per cent. of the enrollment, while the enrollment was apparently 67 per cent. of the enumeration. For 1888, the average daily attendance was apparently 54 per cent. of the enumeration, and 79 per cent. of the enrollment; and the enrollment was apparently 68 per cent. of the enumeration.

The figures above given are the summaries of the statistical reports of the state. Were these figures founded upon the actual attendance upon the public schools, as based upon the total number of days taught and the total number of pupils enrolled therein, the results would certainly be very gratifying, and would compare most favorably with the results obtaining in other states and countries where attendance of pupils within certain ages is required by law. But as a matter of fact it must be said that the school statistics of our state are based, not upon the actual attendance of all the pupils enrolled in the public schools as compared with the theoretical attendance that might obtain as judged by the enumeration, but that our entire statistical system is based upon *membership* only. In other words, all of the time lost by pupils who should be in the public schools from the beginning of the school term, but who do not enter until the term is far advanced, in many cases until one-half thereof is gone, is not included in such reports of time lost; and, that the time lost by pupils after three days successive absence is not recorded or included in the school registers and reports of attendance, but that after such an absence of three days such pupils are dropped from the rolls, and are no longer regarded as members of the school. And further, while, perhaps, in the majority of schools a pupil who has lost his membership returning to school is only "reinstated," and the account of his attendance resumed from that time forward, in a vast number of schools such a pupil upon his return is enrolled as a new pupil, and so greatly increases the per cent. of the enrollment upon the enumeration as returned in the annual reports. Moreover, the methods of keeping school records that have long obtained in the public schools, based upon a percentage system, leads to annual summaries that are very erroneous and misleading. Thus, for example, in a school of six months there might be enrolled for the first month twenty-four pupils, the average daily attendance therein, as based upon membership, showing an average of eighteen, or as recorded at the close of the month, 75 per cent.; for the second month, an enrollment of thirty-five, and an average attendance upon the membership of twenty-eight, or 80 per cent.; an enrollment for the third month of forty, and an average attendance of twenty-eight, or 70 per cent. If in the following three months the ratio of membership decrease in like proportion, we will have as a final summary and average attendance for school term, by months, 75 per cent. Now, it is probable that in such school there may have been enrolled within such school term forty-eight different pupils. In the annual report of the teacher to the trustee there is

included a complete list of such pupils by name and their class standing in the matter of scholarship. In making his verified annual report of attendance within such school corporation, the trustee includes from such school, as the average attendance, 75 per cent. of the total enrollment, namely: 48, or 36 pupils as the actual number that have been in daily attendance upon such school throughout the term of six months. Now, as a matter of fact, the average attendance, *as based upon membership* in such school, has been but 24; and if, instead of basing such average attendance upon membership, it were based upon theoretical attendance by every pupil for the full number of days of such school, the actual average attendance would, in many cases, prove to be not much over one-half the average membership of 24. In short, a careful investigation of the statistical returns from all of the counties of the state, compared with the relative conditions of fact and theory as I have found them to exist in townships, towns, and cities throughout the state, has driven me to the conclusion that while the statistics of the state in the year 1888 show an average daily attendance apparently 54 per cent. of the enumeration and 79 per cent. of the enrollment, that, as a matter of fact, the average daily attendance, based upon a theoretically perfect attendance, would show an average of not over 25 per cent. of the enumeration and 50 per cent. of the enrollment; and that while the enrollment was apparently 68 per cent. of the enumeration, it was not in fact more than 50 per cent.* In other words, we expend annually the sum of \$5,000,000 upon which we should receive a practical return (or actual average attendance) of not less than 70 per cent. of the theoretical return (the full enumeration,) whereas, in fact, we receive a return of much less than one-half that result. *There is no theory of civil liberty or social pretext whereby such a waste of public expenditure can be justified while the complete power of correcting the evil and avoiding the loss lies within the hands of those acting for the state.** Our people have most cheerfully paid all school taxes, and have usually been more liberal in sentiment than those in authority, acting for them, in all educational matters. But there is, and should be a limit beyond which the state has no right to go without showing to its citizens that the supposed benefit is at least commensurate with the cost; and while it may be said with pride that the administrative expense of the public school system of Indiana is the most economical, in proportion to the amount expended annually, of any great civil administration in the world, yet the annual loss of one-half of the benefit that might and should be derived from the operation of such system must condemn any failure upon the part of the state to at least attempt to secure the full practical benefit possible. In answer to all objections to the employment of legal force to compel attendance upon public schools, it may be said, as was so pertinently suggested by Horace Mann, that it is far more preferable that legal force should be employed, if necessary, to take the child to school now, than to be employed in the future to take him to the prison of the malefactor.

I suggest the following as some of the conditions that should enter into a law for compulsory attendance upon the public schools:

1. That all schools be maintained at least 100 days (those corporations failing to maintain schools of that minimum length to be deprived of state school funds in the annual distribution,) and that as fast as practicable the trustees should increase the length of such term to 140 days or more.

2. All children between the ages of seven and fifteen should attend at least 100 days continuously from opening of term. Parents should be held responsible for regular attendance. Parents and guardians failing to send their children to school to be fined not less than \$5 nor more than \$10 for the first lache, and a severer penalty for subsequent negligence. Cities should be empowered to provide schools for incorrigibles, and to assign all such pupils thereto, and enforce their attendance. And where such schools are not provided, when parents can not control their boys and insure their attendance, incorrigible boys should be sent to the State Reform School.

3. The truant officers should be the district director, the township trustee, and the county superintendent for the country schools, and the

*The Italics are ours.

ward school director, the city superintendent, the secretary of the school board, and the county superintendent for city schools.

4. All such directors should be appointed by the township trustee or board of trustees, and should hold their office, at the pleasure of such school authorities, during good behavior.

5. It should be unlawful for any one to employ children under fifteen years of age unless they had a certificate from the proper official to the effect that they had attended school as required by law; and it should be the duty of the directors, upon learning of the violation of such legal provision, to at once notify such employers of the fact of such violation and the penalty thereof, and to promptly report the same to the township trustee or secretary of the board of trustees, and to the county superintendent; and it should be the duty of such trustee, should such employment not have ceased within three days, to institute proceedings against such employer.

6. The right of parents to send their children to private schools instead of to the public schools, or to have them instructed at home, should be carefully recognized and carefully provided for, with the conditions that the education received by such children in such private schools or at home should be at least equivalent to that given in the corresponding grades in the public schools; and that a failure of such private education to secure such results should be followed by the enforced attendance of such pupils upon the public schools. Children should be excused from attendance on a physician's certificate of their physical unfitness to attend.

7. All deaf, dumb, blind, and idiotic children coming under the provisions of the law, should be sent to the proper state schools for such children.

8. The law should provide that the trustee or trustees of any school corporation might, in their discretion, purchase and furnish, free of cost, by loaning to all pupils in the public schools, the text-books required in the regular course of study, with a provision requiring such trustees to furnish to all indigent pupils the books and clothing requisite for attendance upon the public schools as required.

9. In case of insufficient school accommodations in towns or cities, it should be the duty of the proper school and civil authorities to make necessary temporary arrangements as might be suitably sufficient for the accommodation of all children coming under the provisions of the law, until permanent arrangements could be properly made.

10. All fines assessed under such law should go into the special school fund, from which the expense of the enforcement of said law should be paid.

11. A willful violation of any of the provisions of said law on the part of school officials, or willful neglect of duty on their part in enforcing the same, should cause the withholding of a specified amount of the public money that would otherwise be distributed to such corporations.

12. The present system of enumerating for school purposes all persons between the ages of six and twenty-one years, and the distribution of the state school funds upon that basis, should be abolished, and, instead thereof, the state school funds for distribution should be apportioned upon the basis of school attendance as shown by actual enrollment and attendance for at least twenty days.

Doubtless there are other provisions that should be included in such a law.

The following address delivered by A. W. Crecraft before the State Educational Association of Indiana will well repay perusal:

COMPULSORY EDUCATION.

Any system of public instruction should not only provide the *means* for instructing all children, but, after providing these, should *secure* instruction to every child. In all the states the first provision has been made; it may be consistently affirmed that the wherewithal has been amply provided. But have all the youth of the land received its benefits?

John D. Philbrick, in one of his excellent reports, said: "Public instruction cannot be considered as having fulfilled its mission until it secures the rudiments of education to every child." The importance of this second element—the education of all—was duly considered by the earliest settlers of New England. In 1642, five years before provision was made for a system of public schools, it was enacted and made obligatory upon the civil magistrates to enforce, that every child should be taught the rudiments of an education, and should be trained in some honest trade or calling. This, it is true, was afterwards discontinued, but the circumstances and environment of the colonists farther on in their history fully exonerate them from all blame for its neglect. They abandoned it for good cause, but when this was removed, when the days of colonial wars and of the contest for national independence gave place to the arts of peace, to industrial, social, and moral themes, and they were permitted to enjoy a natural growth once more, they again, by appropriate legislation, recognized its necessity. In all the New England States it is now a fundamental part of their school law.

Now, what is it that prevents the education of all? If there are evils which are remedial, we should know what they are and endeavor to remove them.

A glance at the reports from our educational bureaus and departments will reveal some startling facts; first, with respect to *absenteeism*. According to a late report of the U. S. Commissioner of Education, we find that the per cent. of enrollment on the legal school population in Indianapolis is 43; in Chicago, 47; in Louisville, 38; in St. Louis, 50; in Minneapolis, 43. While in states where a compulsory law the most adequate has been in operation, we find a corresponding per cent.: in Boston, 85; in Worcester, 96; in New Haven, 86; in Manchester, 83; in New York, 73; in San Francisco, 73; in Virginia City, Nevada, 84.

Again, in the rural schools where the percentage of enrollment on enumeration is always larger in proportion than in large cities, we find that the highest per cent. in any county in Indiana is 80, and few, indeed, are so high as this. Henry, Hancock, and Jasper have 80; Elkhart, 76; Franklin, 72; Laporte, about 50; Marion, 47; St. Joseph, 52; Allen, 40; Vanderburgh, 37; Dearborn, 57. This represents a much larger per cent. of absenteeism in our rural districts than in the crowded cities where coercion exists.

These reports show the enormity of a second evil—*irregular attendance*. Estimating the daily attendance upon the school population in the counties just named, we find that Henry, Hancock, and Jasper have about 60 per cent.; Marion, 29; Laporte, 32; Allen, 25; St. Joseph, 35; Vanderburgh, 28; Dearborn, 40; Franklin, 44. This great reduction is caused chiefly by irregular attendance. The contrast between cities with and without a compulsory law is well illustrated by placing side by side the per cents. of daily attendance on enumeration based on the reports of the larger cities in Connecticut and Indiana. Connecticut has a compulsory law. Selecting twelve of its largest cities and the same number in Indiana the average per cent. of daily attendance on enumeration in the former is found to be 50, while that in Indiana is about 28. This can hardly be accounted for by the difference of school age in two states.

A third condition of evil is *truancy*. This is generally embodied in statistical reports with the irregulars, but it alone is of such magnitude as to demand special attention from educators and special legislation. In the large cities of Massachusetts we have truant officers; in New York the superintendant and principals are clothed with such power. That it is impossible, in large cities, for teachers without such authority to overcome this evil, needs but a trial to convince. Deputy Superintendent O'Connor of San Francisco truly represented this when he said: "Parents frequently detain their children at home for the most frivolous reasons, thus disposing them to consider truancy a trivial offense; and they often not only give expression to this sentiment in the presence of their children, but also in their presence *misinform* the teacher as to the cause of the absence. I believe that parents are to blame for at least 80 per cent. of the truancy."

Now, as far as it is possible, these evils should be removed. Absenteeism,

Irregular attendance, truancy are the great propagators of ignorance and superstition—are fertile sources of idleness, crime, and every form of vice. They engender a great loss to the state, of money appropriated for those who never reap the benefits of that appropriation, and are the dire cause of trouble that cannot be estimated in dollars and cents.

No one would be so foolish to suppose that he could offer that which would remove all this evil tendency. But it is claimed that coercion in our public school system, wisely provided for by law and enforced, will, in the largest measure, aid in securing an elementary education for all and consequently in the prevention of much evil.

This is proper, first, because the government has a

NATURAL RIGHT TO COERCION.

Horace Mann, over forty years ago, in one of his masterly reports, said: "Among our most patriotic and philanthropic citizens the inquiry is becoming more and more frequent, whether a right to rear up children in a state of ignorance with all its consequent degradations and dangers is one of the inalienable rights of a republican." Men in throwing off the bonds of tyranny are apt to rebound to ideas too liberal for proper government. Such was true of the colonists after the Revolution. It was this fact that Horace Mann realized in the control of education, and that caused him, with the assistance of others, to set in motion a reform. Men have made a mistake in measuring the treatment of children by methods proper to mature and cultivated minds. Who is ready to say that the parent should never use compulsion in the rearing of his child? Who has ever had such experience? Who ever expects to have? Compulsion is mercy, is kindness, when the recipient is benefited by its application. What is true of the child in its parental relations should be true of many exercising the rights of citizens. Are there not those who have long since ceased to grow but who are children still? Whose body and limbs are strong but whose judgement is weak and reasoning feeble? There are many who are competent to perform almost any physical feat and are never fatigued, but who cannot observe, cannot examine, contrive, or execute because their minds are untrained—uneducated. Government, which is supposed to represent in its provisions and administration the sum total of the intelligence, wisdom, and philanthropy of its citizens, should not be made to bend to those who are weak and but mere children in man's disguise. Demagogues may do so, but true statesmen and legislators should take a higher view. Not to do so is unwise, unpatriotic, unnatural, and the certain way to retard what has been called man's destiny—the realization of national freedom.

It is right, secondly, because this sentiment is an

OUTGROWTH OF CIVILIZATION.

Compulsion in school attendance is not a relic of barbarism. We do not find it coupled with the despotisms of the ancients or with the feudal systems of benighted Europe. It is the product of a more enlightened world, of a people who combine a love of country with a love of home, and a pride in intelligence and a fervent interest in the welfare of the entire race.

The Roman was patriotic but loved the largess of brutal conquests, and was destitute of philanthropy. The Greek was philosophic and also patriotic, but lacked benevolence. The Asiatic type was superstitiously and selfishly religious, but no ray of love for the enlightening and elevating of the human race ever emanated from his bosom. It was left for a later date, and another people to realize the duty the government owes the governed—to be just as brave, just as patriotic, but more than this, humane. This is a sentiment that characterizes modern advanced civilization, and this is the sentiment that impels the advocates of coercive education.

No community has ever been known to secure absolutely universal education without the application of the principle of coercion. It is right to make the schools attractive and to use all available moral means to secure the attendance of pupils; it is right that President Angell and others should champion the Bands of Mercy that have been formed in many

places, but these persuasive and moral means have never proved wholly adequate. They are the results of the same sentiments that actuate the defenders of compulsory education, they are its handmaids, and are robbed of half their usefulness where coercion does not exist. When non-attendance is due to the dereliction of parents, then the parents must be held responsible by the strong arm of the law, if the child absents himself contrary to the wish and intention of the parent, then the child must be held responsible.

All arguments against compulsion have been triumphantly refuted by accomplished facts. Matthew Arnold, in 1861, in a report to Parliament, predicted that compulsion could never be adopted in England and France. But his prediction failed. They have followed the example set by Prussia in 1742, practiced throughout the German states through the greater part of the eighteenth century, and adopted by almost every civilized country in Europe. Never was compulsory school attendance enforced more rigidly than to-day in the "slums of London and the squalid alleys of Manchester." The chairman of the London school board, in speaking of the results of its trial in that city, says: "The convictions for juvenile crimes are now only half what they were in 1870." And so it is wherever an earnest experiment has been made. Hon. Joseph D. White, at a Superintendents' Convention in 1883, testified to its efficiency in Massachusetts, as did Superintendent Marble also. Hon. John Jasper, Superintendent of New York City schools, says that "the efficiency of the system grows with time and experience," and presents statistics which furnish conclusive proof of his statement. These accomplished facts are the strongest possible arguments for the utility of compulsion.

Notwithstanding this, we here objections to the system. It is said that such a law

CREATES A NEW CRIME.

We reply that to rear up a child in ignorance is a great crime. That a parent should shirk his duty and permit vicious and debasing habits to take hold of the yielding, flexible disposition of the child, is the most infamous of crimes, and such a parent should be made to feel his own infamy.

Again it is said that such a law is

UN-AMERICAN,

unadapted to our American institutions, or the genius of our Constitution. To this argument the remark of a State Superintendent of Kansas is so applicable that I would repeat his words: "In its most offensive form the objection is made, 'Would you have a policeman drag your child to school?' Yes, I reply, if in after years it will prevent his dragging the child to jail."

There is a class of people who mock at small reforms. They consider them mere patchwork—an actual hindrance to the great and sweeping reforms which they have in mind. They look for economic redemption to a social catastrophe. They find an excuse for the neglect of *every* duty in the general contention that they are deprived of *some particular* right. Here is the groundwork of many arguments against guaranteeing education to every child: "The parents are poor because certain social adjustments are not what they should be." Granted. Does it follow that the child must grow up in ignorance until such distant time as these great social adjustments are made? Does not the fact of that child growing up in ignorance put off still further the chance for a *reasonable* adjust-

ment of social wrongs? Does it not increase the factor of ignorance in that future adjustment and decrease the factor of intelligence? No well-informed person denies that these adjustments must finally be made, but the policy of negotiation, if it results in deeper ignorance, is not the way to bring them about. For this reason we believe in a system that will guarantee education to every child, so that the future intelligence of the man can be brought to bear upon the adjustment of wrong conditions, under which his parents hopelessly and ignorantly suffered.

The practice of employing children in factories has not yet developed sufficiently in this state, except in the two great centers, to justify the establishment of half-time schools. But the regular course of events seems likely to lead, in time, toward the greater development of such a system. It is useless to scout the inevitable, even though it be the undesirable. There are silent forces operating in society that are more powerful than all the clamors of reformers. The appearance of children upon earth whose parents can not or will not provide them with education is a matter of practical certainty for some time to come.

If a child *must* work between the ages of 10 and 14 may not this work be limited to as many hours per day as will not impair its health and vitality? If this limitation is fixed at four or five hours per day may not the child receive at least three hours tuition? To raise a child without education is fairly equivalent to condemning the man who grows from that child to a life-time of menial servitude to others, or well-nigh hopeless disadvantage in dealing with them. The man who must go to another to read and write his letters, or foot up his store bills, is egregiously handicapped in the struggle for existence.

The following is from the report on the Statistics of Labor, Massachusetts, 1881, and contains statements of some experiences in conducting half-time schools in the East, and a short notice of the plan adopted in England:

We have returns from 73 woolen mills of the state, giving a total of 182 adults that can neither read nor write, and of 464 children, of whom but 180 are reported to have been sent out to school, and 284 that have not been so sent out. In one single mill of these are 33 children, none of whom have had their legal schooling; in another, 31; in two others, 15 each, and in three others, 20 each, all similarly defrauded. In others, more merciful, are respectively, 23, 18, 27, 13, and 25 children, who are said to have received their educational rights. It is remarkable that cases are reported where all the children are given as having received their regular schooling, and yet none of them can read or write!

As a purely educational matter, it would seem to be a function of the

educational authorities of the state, and of the several local school committees. But an objection to this is, that local school boards in manufacturing centres are not superior to the influence of strong corporations, or powerful individual manufacturers, and that where they should attempt to enforce the statute, they would stand a chance of being displaced at the next election, and their seats occupied by less troublesome persons. In some instances, as is credibly reported, *overseers of the very mills that violate the law, are placed upon school committees for the very purpose of making things go easy.* On mature reflection, therefore, and a careful noting of the working of the present statute, we give it up as wholly useless, and recommend in its place the English system of "Half-time Schools," under which factory children attend school 3 hours each day, working in the mill an average of 5½ hours for 5 days in the week, and an average of 3½ hours on Saturday. Here we work them 11 hours per day; but even if this is insisted upon, the half-time school would be better for the children. When questioned on this subject, parties in superintendence of mills declare that they intend and endeavor to have the law regarded, but an endeavor is not compliance, nor is directing overseers, or others having charge, to observe the law, nor are posters put up in mills containing orders to obey the law anything but empty words, and words used for no other purpose than to give the ability to say, "we are law-abiding people and endeavor to comply with the laws." The whole thing is a farce, and the law mere words,

—"full of sound and fury,
Signifying nothing."

It might as well be swept, with other meaningless statutes, clean away from the book, to make room for some practicable and resolute law of intentional purpose. With the exception of Fall River, Salem, and Indian Orchard (Springfield) there is neither obedience nor system, while elsewhere, as a general rule, the provision for both school-time and mill-time of these hapless younglings is disregarded, and will probably continue to be disregarded. If Massachusetts really intends to protect and educate these children, she must abandon the old and inaugurate an entirely new system. Of such we will speak hereafter. To create such a system and to put it in operation would demand appropriate legislation, and much anterior arrangement of detail. Reference of the whole matter to a commission, to decide upon a plan, would enable the legislature to enter upon the consideration of the subject with better ability to act wisely in the premises. The legislative Committee on Education, or the State Board of Education, would, either of them, seem appropriate to devise a system that would meet the exigency. Something efficient must be done, and done quickly and effectively, for ignorance in the manufacturing towns is on the rampant increase. We venture to assert that never till within these last few years, could it be said, *that in a single establishment of about 1,600 working people, in one town in Massachusetts, there were more than 800 that could neither read nor write!* And this ignorant horde is daily augmented by the imported influx of tens of thousands of thoroughly ignorant emigrants—paupers, many of them, as declared by a manufacturer at a public hearing before a legislative committee, paupers imported from England expressly to be employed in manufacturing because of the cheapness of their labor. Our large cities and manufacturing centres are surcharged with younglings growing up in ignorance and to a heritage of crime, notwithstanding all our appliances of education. And one strong reason, among many others, is that there is no enforcement of the school laws. We boast of these laws and of our system of education, and of its results, but the ratio of ignorance is increasing beyond the proportion of its means of cure, so that we are driven to the conclusion that the state, for its own sake, for its reputation's sake, a reputation that cannot much longer be maintained by self-laudation, for the sake of its whole people, must adopt, and put into systematic and rigid enforcement, measures absolutely positive, for the education of the very large number of its untaught children. The Commonwealth must institute forceful means to secure to each of its children, adopted and native, every one of them, a participation in the benefits of her method of education. Let us urge this point a little.

Here are certain words of no ordinary signification,—commonwealth, children, education; forces, in their connection here, conveying the idea of an intimate mutual relation between certain parties, and a strong right of one of them over the other, a right founded on the happiness and usefulness of one and the permanent safety of the other. But there is yet something more that may be legitimately made out of them. Under existing laws, every child has secured to him the right of a free education in the public schools. The parent can demand it for his child and it cannot be withheld. Now, is it hard to insist upon the converse, that the state which provides the education shall have an equal right to insist upon it that every child shall be educated, and that our compulsory law, for such we have, though it lies dead on our statute books, shall be brought to bear, with impartial and efficient rigor, upon every employer and parent who, through avarice, willfulness, or neglect, prevents the education of the children? The very existence of a republic, the very perpetuity of the common good, of the common weal, the commonwealth, the security of common and individual rights, happiness, liberty, property, are inextricably involved in the education of *all* the people, and endangered by the push of ignorance,—ignorance, that word so comprehensively and fearfully expressive of the multitudinous causes of misery in society and to society,—ignorance that blocks up the way of conserving law, dwarfs the general amount of happiness, and impedes the progress of mankind. Now, we maintain that society, by the natural law of its organization, has a legitimate and indisputable right to step right into the road and to clear away this obstruction, regardless of who may chafe, or who may fret, or who may oppose; that it has a manifest right to assault and to subdue ignorance whenever it may be found, and that it is the bounden duty of every good citizen, not only to bid it God-speed in the righteous struggle, but furthermore, to hasten to its aid, to go into the fight, and to put in with forceful vigor, and rapid repetition; any number of well-aimed and stunning blows at the common and mischievous enemy of the common good.

The state must, we say, for its own preservation, adopt and enforce more certain means of educating this class of its children. It must *enforce*, it must *compel*, and all three, and each several one, child, parent, and employer of every variety, *must be constrained* to yield to law, yea, verily, forced to yield, if nothing short of force and compulsion will suffice. It is useless any longer to wink at existing educational abuses, or to blink the idea of compulsion out of sight and out of thought. A fearful warning comes from France, whose ignorant hordes have been scattered before the educated soldiers of Prussia, like chaff before a whirlwind. And Prussia *compels* the education of every child within her borders. Nobody who thinks and forecasts can object or refuse to stand by the state when it comes in with its rightful powers of self-preservation, and insists upon it that *every child within its limits shall be educated*. It may possibly be a delicate operation to step in between an obstinate father, who prevents the education of his child, and take the child from under his false and incompetent protection. But if the state does not do this indelicate thing when the child is a child, it may have to do the much more indelicate thing of hanging him when he shall have become a man. It will therefore be vastly better for the state to protect itself from harm by the preventive processes of the schools than to be compelled to do it by the curative method of the gallows.

Now, we know indeed that there is a compulsory statute of the Commonwealth in relation to the schooling of its children, but like a great many other statutes on the books it is paralytic, effete, dead—killed by sheer neglect. It was never enforced, and never supposed to be anybody's duty to enforce it. In fact we are inclined to believe that it is not generally known that such a law was ever enacted. *Nobody looks after it, neither town authorities, nor school committees, nor local police, and the large cities and many of the towns of the state are swarming with unschooled children, vagabondizing about the streets and growing up in ignorance and to a heritage of sin. The mills all over the state, the shops in city and town, are full of children deprived of their right to such education as will fit them for the possibilities of their after-life. Nobody thinks of either enforcement or obedience in the*

matter, so that between those who are ignorant of the provision, and those that "care for none of these things," thousands of the poor younglings of the state, with all her educational boasting, stand precious small chance of getting even the baldest elements of education.

And this brings up thought of the successful experiment in England of of her system of

"HALF-TIME SCHOOLS,"

as now established and in full success in many of her manufacturing towns. Some account of them will be found interesting, and may prove suggestive of their value if sanctioned by law in Massachusetts. They are founded on the principle that children employed in factories must be allowed some portion of each day for educational purposes, and that their employment for a full day's work of ten hours within the walls of a mill is in excess of their physical ability, and would therefore redound to the injury of both mind and body. To remedy the evil they are allowed on each day three hours of schooling, and every factory child in the kingdom *works only half a day and attends school the other half*, and it has been abundantly proved that these "half-timers" eventually obtained as much book instruction as the children in the same schools, under the same masters, and by the same methods, obtained under the full time of five and six hours.

Before proceeding, however, to speak in further detail of this excellent arrangement, we desire to speak of a school of a similar character established in Massachusetts, the first one of its kind in the state; the factory school at Fall River, though prior in existence, being on the time-method of an alternation of three months' schooling and nine months' work.

The "half-time school" at the "Indian Orchard" Mills, in an outlying ward of Springfield, about four miles from the city hall, owes its origin to Edward Atkinson, Esq., treasurer of said mills. It is one of the public schools of the city, and under supervision of its school committee, but is especially set apart for the children of the factory between ten and fifteen years of age. Its practical working may be learned from the following two letters, the first from Mr. Atkinson, in reply to a note from this department asking for detailed information, and the second from the resident agent of the mill to Mr. Atkinson, giving more minute details:

Gen. H. K. OLIVER, *State House.*

BOSTON, 1871.

DEAR SIR:—I send you the latest report about our half-time school. You will remember that this school is a public school supported by the city of Springfield, and is not in any sense a charity school. It could be carried on better if our village were not isolated from the main part of the city, and the number of children rather too small for the greatest economy. I think half-time schools might be established with great benefit in all our larger towns and cities, drawing children from various employments in which they are now occupied, or making it possible for other children to aid in their own support, who cannot now do so, owing to the requirements of the full-time school.

From the observations I have made while the half-time school has been in operation at our mill, I should think that the system might be applied with great benefit to the cash-boys in our retail shops, to boys employed in printing offices, to boys who sell papers, and that very many girls would be much more usefully employed if occupied half the day in a clothing establishment or other trade, and the other half in a sensibly conducted school, rather than all day in school; especially if such a system made it necessary for both girls and boys to employ the three school hours per day of the half-time system in genuine study of geography, arithmetic, the English language, and good reading, and in the practice of writing, rather than in a superficial study during five hours' full-time of chemistry, what is called physiology, and other exercises of little or no practical use to the large majority of pupils after they leave the school.

Yours respectfully,

EDWD. ATKINSON.

EDWARD ATKINSON, Esq., *Treasurer.*

INDIAN ORCHARD, 1871.

DEAR SIR:—I herewith send you as per request detailed account of our "half-time" school from its commencement. The school first started December 14, 1868, with thirty scholars in attendance, and holding a session of three hours in the afternoon of each day, Saturdays excepted. The children worked in the mills in the forenoon, and left work for their dinner at 12 o'clock; attended school in the afternoon, commencing at 1 o'clock, and closing at 4, and then returned to their work in the mills. At the beginning of the second term it was thought best to commence school at 1:15 o'clock, thus giving the children *more* time for recreation. Those who worked by the day were allowed three-quarter time (pay,) but their average pay for the month would amount to *nearly* as much as when working *full* time and not attending school, from the fact that where they before were obliged to be "out" from sickness or other causes, we then found them at their work every day. And for the same reason those working by the "job" or piece would earn as much on the particular kind of work that children are required to do. This system of "half-time" was a marked success, and was kept up until the winter of 1870, with an average attendance of thirty scholars. Each one was obliged to attend one-half of each school day for six months, making *three* months *full* time as required by law; they were then admitted to the mills for six months as *full*-time workers, while a new set took their places in the school-room. In December, 1870, it was decided to make a "full-time school," in other words, to employ two sets of children, keeping one set at school half of each day, while the others were at work; those working in the forenoon taking breakfast at 5:30 o'clock, commencing work at 6:15 o'clock, and leaving off at 12 o'clock; their session of school opening at 1:30 and closing at 4:30 then having the rest of the afternoon to themselves, their places in the mills being filled by those who attended in the forenoon. These "forenoon" scholars take their meals at the same hours as the others, their school beginning at 9 o'clock and closing at 12; these then go to work at 12:45 o'clock and finish at 6:35. We pay each set for "half-time." This school was started the first week in December, 1870, with forty-three scholars in attendance, twenty in the forenoon and twenty-three in the afternoon. Owing to the removal of several families from the place the average attendance did not exceed 30 for the term (which closed March 24.) When we commenced this system I thought it the better of the two, but it does not work as well, from the fact that it reduces the wages of the children to too low a figure. When the school begins again we shall return to the system as first established by you.

Now, as to the results of a "half-time school." We reach by it a class of children that must grow up in ignorance but for this opportunity. Their parents would be glad to send them to school if they could afford to do so (at least they say so.) The effect upon these children is marvelous; they acquire habits of neatness, their morals improve, in fact their whole being seems changed by their "contact with the school-room." It is astonishing to see how readily they learn, and how much of reading, writing, and arithmetic they acquire in one short term. Much of this is due to the excellent teachers that have been provided. E. A. Hubbard, Esq., superintendent of schools, has done all in his power to make this school a success, as has Miss Sheldon, the principal, who has been ably seconded by Miss Lucy Richardson, the teacher of the school; and she has certainly accomplished wonders. They would without doubt have been glad to have added their testimony, but have not yet returned from vacation. I believe that, as a rule, the children learn as much in this "half-time" as children of same age in full-time school, but the teachers have not expressed an opinion on the subject.

Yours respectfully,

C. J. GOODWIN, *Agent.*

This system, in its general features, is of English origin. Its working may be understood by looking at the arrangement of time in some of the

English mills. Their morning bells for waking the operatives ring at 5:30, work commences at 6, and continues till 8 o'clock, at that hour they go out to breakfast. Returning at 8:30 they work till 1 o'clock P. M. They then leave for dinner and, returning at 2, they work till 6 o'clock. This is the arrangement for five days of the week, giving 10½ hours for each day. On Saturday, beginning at the same hour, and taking breakfast as on other days, they continue till 2 o'clock P. M., when work stops for the day, and dinner is taken after the mill closes. This gives 7½ hours for Saturday, which, added to the 52½ hours of the other five days, makes the 60 hours of the week, or an average of 10 hours a day.

The factory children, however, are divided into two sets—which we will designate as No. 1 and No. 2—for convenience of explaining their school and work times, and we have,—

No. 1.—A. M. In school from 9 to 12 for five days of the week.

P. M. In mill from 2 to 6 for 5 days of the week.

No. 2.—A. M. In mill from 6 to 1, P. M., (less breakfast time,) for 5 days of the week.

P. M. In school from 2 to 5, for 5 days of the week.

On Saturday neither set attends school, but No. 1 works in mill from 6 to 11, A. M., (less breakfast time,) and No. 2 works in mill from 11 to 2, P. M.

Every month the two sets change times,—No. 1 taking mill in the forenoon and school in the afternoon, and No. 2 taking school in the forenoon and mill in the afternoon, so that No. 1 working 23 hours per week for one month works 37 hours per week the second month; while No. 2, working 37 hours per week for the first month, works 23 hours per week the second month, each set getting 15 hours' schooling per week and time for recreation besides, *while children in the mills of Massachusetts work 66 hours per week, and, as a general thing, get no schooling.*

This is the method in some parts of England, while in others, by the use of Saturday as a school day, forenoon and afternoon, three hours more schooling per week is secured to each set.

A careful reading of Mr. Goodwin's letter will show that this school will differ from the English half-time schools, by returning to its first method, inasmuch as the children will work in mill *all the forenoon and a part of the afternoon*, while the English half-timers *have an entire half day out of mill.*

The former children will work an average of more than eight hours a day, while the latter work an average of only five hours, thus having some time for recreation from work and school, which is denied to their fellows here.

While the agitation is going on upon the subject of *over-study* by children in our general school system, under six hours a day in school and two hours out, the influence of the combination of eight hours' work with three hours' study, in a practical continuity of time by factory children, is certainly worthy of like consideration. The English system is far better for the children, and we believe that their productive power will, in the long run, be fully as good, though that is not a pressing argument. At the Naumkeag Mills, in Salem, this true half-time system is carried out, and two-thirds pay is allowed the children.

ENGLISH HALF-TIME SCHOOLS.

We now proceed to give some testimony of experts on the subject of the half-time schools in England:

The testimony was taken for the Education Commission, and was collected and submitted by Edwin Chadwick, Esq., pursuant to an Order in Parliament of June 25, 1861.

The "Half-Time School" theory displayed in the excess in practice of the ordinary hours of book instruction in all popular schools, beyond the natural limits of the power of attention on the part of the average of the children taught.

1. MR. WILLIAM STUCKEY, Master of the British School, Vineyard, Richmond, *Fifteen years a teacher.*

Q. Will you describe your experience and observation as to the time of

the day during which it is practicable to sustain a bright, interested, and voluntary attention on the part of the children of the average ages taught in public schools? A. In my experience two hours in the morning and one in the afternoon is about as long as a bright, voluntary attention can be secured. Q. You can not, then, do so more than three hours a day? A. I can not, certainly. And in consequence of my experience of the inability to sustain the same amount of attention in the afternoon as in the morning, the exercises in my school are so arranged that those merely imitative are taken at that time, such as writing, drawing, &c. Writing, for example, is a sitting and quiet imitative exercise, requiring less intellectual attention than arithmetic. Such exercises I find, therefore, best for the afternoon. Q. Are you to be understood as stating that, as a general rule, the capacity of attention is exhausted within three hours, even with varied interesting lessons? A. Yes; however interesting the lessons may be, the attention of the great majority will be exhausted within that time. Q. Do you find much difference in the classes, in social position of children, in respect to the capacity of attention? A. Not much difference in average of scholars; the middle-class children have somewhat the advantage, though exceptions are found distributed among both classes. With the very lowest class there is difficulty in obtaining attention at all. Q. What difference is there between the capacity of attention of boys and girls? A. Not much, according to my experience; in mixed schools the girls give better attention than the boys on particular subjects, but I do not think that their general power of attention is quite equal to that of the boys. Q. What do you find to be the effect of the present long hours of school teaching? A. The children are not able to give bright attention to subjects brought before them for the whole time they attend school, and this begets habits of inattention arising from mis-occupation of time. With the brighter attention greater progress will be made in the shorter time. Three hours a day is, according to my experience, as long as children can be profitably employed in school. Beyond that attention for intellectual improvement is useless.

MR. ISAAC PUGH, engaged in the school instruction of the laboring classes since 1823.

Has taught about 3,000 boys. The school he conducted has, on the average, changed the scholars about every three years. The national hours are six hours in summer and five hours in winter. He says: In my experience these hours of school instruction are too long, particularly in the summer. You can, under the best circumstances, keep up the attention of children only a limited time, with safety to the children, and that time is less than the present time. After a certain amount of attention and mental effort, they become wearied and inattentive, and consequently what is done in that state of mind, is a mere waste of time and of the teacher's labor.

3. MR. JOHN PEARSON CAWTHORNE, Head Master of the Richmond National School.

Q. How long have you had experience in teaching? A. I have been nearly twelve years a teacher, during which I conducted the Chichester Central School, where there were about one hundred and fifty boys. I quite agree generally with Mr. Pugh in his statement of the limits of profitable attention in school teaching. Q. How do you find the capacity of attention at different times of the day with even varied relief lessons? A. In the morning we find the last half hour very wearying; in the afternoon we find the first hour bright, the next half hour less bright, and the last half hour worse than useless. Q. Could you not fairly exhaust voluntary and unstrained attention within three hours, from day to day? A. Omitting the ornamental subjects and those used for relief, I certainly could exhaust the pupil's attention in three hours daily. The boy's mind would be completely exhausted with the hard subjects by two hours' attention in the morning and one hour's attention in the afternoon. Q. Do you think it desirable to exhaust their attention completely? A. No; I think the effects of a complete exhaustion are injurious. Q. Supposing a class of children, say of seven years of age, brought to you from an infant school, in what period, with full control of the means, could you undertake to bring them to the understood good educational standards in reading, writing, and arithmetic? A. In three years; reading intelligently, writing fairly, and spelling correctly, and in arithmetic as far as decimals,

exclusive of problems, which I think require more matured minds. Q. Would you not, in bringing them up to these standards, have given them the elements of future self-improvement? A. Undoubtedly, and they might afterwards go on themselves with problems or anything else. Q. Supposing, instead of the children at seven years of age, coming direct from fair infant schools, they came direct from the streets, without any previous school education whatsoever, ignorant of reading and writing, how many years would you require to bring them up to the standards of reading, writing, and arithmetic? A. I would not undertake to bring them up to the same standard before their twelfth year. The infant school is of the greatest importance. I estimate the infant school teaching, of which I have had experience, as equal to the saving of one-third of the time of education. Good infant school teaching lays far the best foundation for a good education. Q. If you were left to yourself, to the attainments of the standards stated, of reading, writing, and arithmetic, would you use other, and what adjuncts as means? A. As reliefs, I should use the bodily exercises, and drawing and music, and a little practical science. Q. Your answers are understood to be founded on your experience of large schools and systematized teaching? A. Yes; but my experience goes to this,—the larger the school the better the means of organization, and of efficient tuition and progress with the scholars. On the small scale necessitating the individual teaching of boys, I could not insure anything like the same result, in large schools; such results are secured by collective teaching. Q. If your own son were brought up to the elementary standards stated, would you at ten years resist his going into employment, if profitable employment were offered? A. On mental or educational grounds I should not resist it; but on bodily or physical grounds I should, because children at that age are not fitted to cope with laborious pursuits. Q. Would the half-time on the same day or alternate days meet the difficulty as to full bodily labor before the frame is more strongly built up? A. Very well; I should feel no difficulty myself with respect to a half-time system. Q. Have you had any personal experience or observation of what is now becoming known as half-time system? A. No; not with boys, but I have no doubt of its advantages. Indeed, one proof of the efficacy of a half-time system of education is afforded by the experience of mixed schools, in which the girls generally have only half-time, the whole of the afternoon being devoted to needle-work; and yet it is a general observation that the girls with the shorter time of book instruction are quite equal to the boys, who are full time at book instruction. Mrs. Cawthorne for some years conducted mixed schools in Sussex on the modern system, and she affirms that the girls were always on a par with the boys, and in some respects superior to them.

4. MR. DAVID DONALDSON, *First Master of the Free Church Training College, Glasgow.*

Q. Will you be so good as to state the results of your experience as to the extent of profitable attention and mental labor in young children: (a) As to the average time of profitable lessons. (b) As to the length of time during which profitable mental labor or attention may be maintained with the average of children. (c) During what part of the day? A. My experience as to the length of time children closely and voluntarily attend to a lesson, is—

Children of from	5 to 7	years, about 15 minutes.
"	" 7 to 10	" " 20 "
"	" 10 to 12	" " 25 "
"	" 12 to 16 or 18	" " 30 "

I have repeatedly obtained a bright, voluntary attention from each of these classes for five, ten, or fifteen minutes more, but I observed it was always at the expense of the succeeding lesson, or, on fine days, when the forenoon's work was enthusiastically performed, it was at the expense of the afternoon's work. I find the girls generally attend better and longer than the boys to lessons on grammar and composition; the boys better and longer than the girls to geography, history, arithmetic, and lessons on science.

(b) For children under seven years of age, I have found three hours per day to be the extent of profitable mental labor,—two hours before and

one after dinner; for children between seven and ten years of age, three and a half hours per day; for children between ten and twelve or thirteen years of age, four hours per day; and for pupils above that age, four and a half hours per day. In these periods I include the time devoted to the daily Bible or catechism lesson. Of course, some pupils of these ages can work advantageously for half an hour or even an hour longer; but, taking the average of children, these periods mark the extent of profitable mental labor and attention per day. And there is very little difference in the powers and capabilities of children of the different classes of society, with the exception of the neglected children of the lowest classes, and for a time after they have entered school. Children of the same age are very much alike in mental capacity. * * *

On the "Half-Time School" practice in English Factory Schools; and on the equality or superiority in book attainments of "Half-Time School" scholars, taught within the (so-called) natural limits of the capacity of profitable attention.

1. Testimony of MR. JOSHUA BOLTON, *Head Master of the Factory School of Mr. W. Walkers at Bradford, Yorkshire*, (which is attended by 400 boys and girls.)

Q. What is the comparative condition of the pupils under the short-time as compared with the long-time school system? A. From my experience and observation of the half-time scholars, as compared with the full-time scholars, I consider that the former are more advanced. They come fresh from work to school, and they go fresh from school to work. I believe that the alteration is in both ways beneficial. Q. What is the comparative experience of the short-time pupils in the factory? A. MR. WALKERS. Where I had to complain one hundred times thirty years ago, I have now scarcely to complain once. The change for the better is immense. Q. Do you not find your commercial interest in the improvement? A. Most decidedly, notwithstanding that we spend a very large sum on the school every year. It is to the interest in every way of all employers to see to the education and good conduct of their work people. Q. (To MR. BOLTON.) What is your experience as to the teacher's exertion requisite to keep up attention during the short-time as compared with long-time school hours? A. In the afternoon of the full-time schools, I certainly found it very difficult, after the first hour, to keep up the attention of the pupils. During the first hour it was easy, after that it was an up-hill, sliding scale of difficulty.

2. MR. JOSEPH LONG, *Master of the Manchester Road Model Factory School, Bradford.*

In my experience of more than six years in this school, where we now have an average attendance of 178 boys, the half-time or factory boys give us a more fixed attention than the others; they seem to be more anxious to get on, and I believe that in general attainments they are full equal to the full-time scholars. I believe it would be of much advantage if the afternoon hours, at least of book instruction, were reduced.

3. MR. JAMES JOHN CURTIS, *British School Rochdale.*

Q. What is the general result of your experience of the half-time scholars here as compared with the full time? A. My experience leads me to say that the progress of the half-timers is greater in proportion than that of the full-timers.

4. MR. JAMES DAVENPORT, *Machine Worker* (employing between 500 and 600 workmen.)

In my experience as an employer, the short time scholars are decidedly preferable to the full-time scholars, or those who have been exclusively occupied in book instruction. I find the boys who have had the half-time industrial training, who have been engaged by us as clerks or otherwise, better and more apt to business than those who have had only the usual school teaching of persons of the middle class, and who came to us with premiums. In fact, we have declined to take any more of that class, though they offer premiums. They give too much trouble and require too much attention.

5. MR. JAMES WRIGLEY, *Head Master of the Parochial School, Rochdale.*

The school contains 720 children, boys and girls, of whom there are 158 girls. There are 320 half-timers,—170 boys and 150 girls. During the 14 years he has been master, he had under his tuition between 6,000 and 7,000 children, of whom about 4,000 would be half-timers.

Q. Do you find that that time, the two hours and one-third, is as much as you can profitably occupy them? A. I think myself that we are really at the limit of profitable attention with them. But I consider that we can and do keep the attention during the two hours and one-third. Q. What is the general result of the half-time system upon the occupation of the pupils in after-life? A. Many of them obtain good situations afterwards; many of the clerks in town have been half-timers. I do not think them superior to the full-timers, but I think them equal in general working capacity in after-life to the full-timers.

MR. WALTER MACLEOD, *Head Master of the Model School, Royal Military Asylum, Chelsea.*

Q. How long have you been engaged as a school-teacher? A. Twenty-two years. Q. How long do you find it practicable or profitable to sustain a bright voluntary attention of the boys during the day? A. I should say that good attention can be sustained in the morning from nine to eleven, but at eleven the attention begins to flag. The best school hours are, I think, from ten to twelve o'clock. Q. How is it after meal-times? A. They are then always sleepy. Q. Referring to the common school time, of five or six hours' daily sedentary attention, what is the result of your observation as to their duration? A. In my view, they are greatly too long, and I find that labor in teaching beyond about four hours, including breaks and variations, is fruitless. Such lengths of school-hours, as those which are common, are not only worse than useless for the pupils, but they are injurious to the master. No master can go on vigorously for more than four or five hours consecutively, day by day, without injury to himself. Those who are in school six hours daily, cannot be actively engaged in teaching all the time. Q. Will you have the goodness to prepare a table for a two hours' and a three hours' daily course, and also a time-table for a full course on alternate days? A. Yes, I will. Q. Are there any elementary tests which, in your experience, you would deem sufficient for testing the efficiency of school-teaching, or the proficiency of scholars? A. Yes; reading, dictation, composition, and arithmetic. Q. Would these suffice? A. Decidedly. Q. How would you apply them? A. By *viva voce* and written examinations. Q. How much time would be requisite to test, by sufficient examination, a division of a school, say of three hundred? A. In a school of that size, the upper division would be about seventy, and those might be examined in the subjects specified in a day. A few minutes' cessation from studies spent in the play-ground are of incalculable benefit to the children, both physically and mentally. The very punishment inflicted on children frequently arises from a neglect of those laws which we cannot violate with impunity. We keep them sitting for an hour or two on hard, uncomfortable seats, without any movement of the body; tired of sitting, they get restless; inhaling impure air, they become heavy, dull, and stupid; disorder and neglect of lessons are the results, and the master resorts to punishment, which only increases without removing the evil. If, instead of punishment, we sent them to run in the play-ground, to breathe pure air, to engage with the master in sports which exhilarate the mind, then, as a general rule, it would be found that on their return to the school-room, there would be order, discipline, attention to studies, and a healthy moral tone would pervade the school; *for the play-ground is the grand arena where the moral faculties and the affections should be cultivated,—where the master should take the place of a parent, and the pupils that of a household.*

Mr. Macleod sent in the following time-table for two and three hours' daily instruction:—

Time-Table for Two Hours' Daily Instruction.

TIME.	Monday.	Tuesday.	Wednesday.
From 10 to 10½ o'clock.....	Reading.....	Reading.....	Reading.
10½ to 11 o'clock.....	Writing.....	Grammar.....	Writing.
11 to 11½ o'clock.....	Arithmetic.....	Arithmetic.....	Arithmetic.
11½ to 12 o'clock.....	{ Reading..... } { Geography.... }	Writing.....	Dictation.

TIME.	Thursday.	Friday.	Saturday.
From 10 to 10½ o'clock.....	Reading.....	Reading.....	Mental Arithmetic.
10½ to 11 o'clock.....	Composition...	Grammar.....	Composition.
11 to 11½ o'clock.....	Arithmetic.....	Arithmetic.....	Arithmetic.
11½ to 12 o'clock.....	{ Reading..... } { History..... }	Writing.....	{ Reading.* } { Geography. }

Time given to each subject per week.

Reading.....	4 hours.
Writing.....	2 "
Composition.....	3 "
Slate and Mental Arithmetic.....	3½ "
Grammar.....	1 hour.
Dictation.....	½ "
Total.....	14 hours.

* Or given *via voce* by the teacher.TABLE 4.
Table for Three Hours' Daily Instruction.

TIME.	Monday.	Tuesday.	Wednesday.
From 9 to 9½ o'clock...	Reading.....	Reading.....	Reading.
9½ to 10 o'clock..	Writing.....	Composition.....	Writing.
10 to 10½ o'clock.	Slate Arithmetic..	Slate Arithmetic...	Mental Arithmetic.
10½ to 11 o'clock.	Grammar.....	Dictation.....	Grammar.
11 to 11½ o'clock.	{ Reading..... } { Geography..... }	Reading..... History.....	Slate Arithmetic, or Tables.
11½ to 12 o'clock.	Music.....	Drill*	Object Lesson.

TIME.	Thursday.	Friday.	Saturday.
From 9 to 9½ o'clock...	Reading.....	Reading.....	Reading.
9½ to 10 o'clock..	Composition.....	Grammar.....	Writing.
10 to 10½ o'clock.	Slate Arithmetic..	Mental Arithmetic.	Slate Arithmetic.
10½ to 11 o'clock.	Dictation.....	Writing.....	Drawing.
11 to 11½ o'clock.	{ Reading..... } { Geography..... }	Reading..... History.....	Reading. Poetry.
11½ to 12 o'clock.	Drill.....	Slate Arithmetic...	Music.

Time given to each subject per week.

Reading	5½ hours.
Writing	2 "
Composition	1 hour.
Slate Arithmetic	3 hours.
Mental Arithmetic	1 hour.
Dictation	1 "
Grammar	1½ hours.
Music	1 hour.
Drill	1 "
Drawing	½ "
Object Lesson	½ "
Total	18 hours.

*Military drill under a sergeant of the army. No provision seems to be made for a recess.

TABLE 5.

Table for Instruction on Alternate Days.

TIME.	Monday and Tuesday.	Wednesday and Thursday.	Friday and Saturday.
From 9 to 9¼ o'clock..	Reading.....	Reading	Reading.
9¼ to 10 o'clock..	Writing....	Slate Arithmetic...	Composition.
10 to 10¼ o'clock.	Slate Arithmetic..	Dictation	Slate Arithmetic.
10¼ to 11 o'clock.	Dictation	Grammar.....	Dictation.
11 to 11¼ o'clock.	Grammar.....	Writing.....	Mental Arithmetic.
11¼ to 12 o'clock.	{ Reading..... } { History..... }	Mental Arithmetic.	Reading.
2 to 2¼ o'clock...	Slate Arithmetic..	Read History.....	Arithmetic.
2¼ to 3 o'clock...	Writing.....	Composition.....	Read Geography.
3 to 3¼ o'clock...	{ Reading..... } { Geography..... }	Slate Arithmetic...	Writing.

Time given per week to each of the above subjects.

1. Reading, including Geography and History..... 4 hours.
2. Writing..... 2 "
3. Composition..... 1 hour.
4. Grammar..... 1 "
5. Dictation..... 1½ hours.
6. Slate and Mental Arithmetic 4 "

Total..... 13½ hours.

The school is to be opened and closed with prayers.

EDWARD C. TUFNELL, Esq., Inspector of Schools:

Q. Are you inclined to insist on music as part of a popular course of instruction? A. Certainly; music, whether singing or instrumental, has a powerful effect in softening and humanizing the children. The most remarkable instances of its effect in this respect are drawn from ragged schools or reformatories. I may particularly mention two—one entitled the East London Ragged Shoe-black Refuge, the other the White Chapel Refuge, each of which contains about 200 boys, and I have to visit them officially, as the Privy Council assists them largely. Many of the boys in these schools have been criminals, and, indeed, the wildest children in London; and instances were mentioned to me of some of the most undisciplined and ill-conditioned boys having been reduced to order and discipline solely

by being placed in the band, when all other means had failed. The master of one of these establishments informed me that the committee had been considering the propriety of giving up the band on account of the expense, but he informed them that *he would sooner pay for it himself than give it up*, as he found it so powerful an engine for maintaining order and discipline.

There are two sides to every question. It is the purpose of this report to give to every person who reads it a thoroughly intelligent conception of the matters under consideration. To do this, it is necessary to present the very best that can be said on both sides. We print, therefore, an able exposition of one side of the question of compulsory attendance, embodied in a paper read before the National Educational Association, at St. Paul, by State Superintendent Austin H. Cooper, of Texas. We do not believe that the conservative argument could be better set forth:

COMPULSORY LAWS AND THEIR ENFORCEMENT.

ADDRESS OF OSCAR H. COOPER, AUSTIN, TEXAS, BEFORE THE NATIONAL EDUCATIONAL ASSOCIATION, ST. PAUL, MINN., JULY 10, 1890.

My attitude toward compulsory education laws and their enforcement is that of the conservative masses of the American people. I have a profound and abiding faith in the American people, and the institutions which they have fostered and created. The idea which has dominated the development of American institutions, as I read it from the movement of the century, is the antithesis of the idea which has dominated the development of the institutions of the old world. The American idea is a minimum of law, thoroughly enforced, with a maximum of freedom; the old world idea is a maximum of law, with a minimum of freedom.

The trend of the past two decades in this country has been indeed toward the old world idea, and we have sought to extend the domain of law into new fields which had before belonged to that of freedom. This movement, I am persuaded, is temporary and superficial, the result of a cross current in the deeper stream of our national life. Yet there are not wanting evidences of a drift toward the breakers of socialism sufficient to arouse concern in the mind of patriot and the friend of liberty and humanity.

To this drift is to be ascribed, in a large measure, I believe, the imperious demand which comes from many quarters that education shall be made compulsory, and that the compulsion be made effective. I hold that compulsory education is contrary to the dominant idea which has pervaded the development of American institutions, and further, that it is perilous to one of the most vital and essential of the institutions on which civilization rests,—the family. The family is the unit of our social fabric; it is antecedent to government; it derives its constitution and sanction from nature and nature's God. Education I hold to be a right inherent in the family and the parent. It is at this point that I part company with my friends who urge compulsory education. They hold education and control of the child to be a duty or privilege delegated by organized society to the parent, rather than a right inherent in the parent or family. If their contention is right, compulsory education is justified in principle. If mine is right, that the control of the child is a right of the parent, and not a duty or a privilege, compulsory education is contrary to the law of the family, and in its tendency destructive of this institution.

While I thus hold that education is a right inherent in the family, I have no sympathy with those radical disciples of *laissez faire*, whose theory of government finds no place for public education. Society has too deep a stake in the education of the child to leave it without provision. The

perpetuity of free institutions depends too much upon the general diffusion of knowledge for this general diffusion to be left to the chance of private venture or sectarian zeal. It is the right and imperative duty, one of the highest duties of government, to make ample provision for the education of the youth who are reared within its domain. It is the right and duty of society to thus aid the family and the parent,

"So that none
However destitute, be left to droop
By timely culture unsustained; or run
Into a wild disorder; or be forced
To drudge through a weary life without the help
Of intellectual implements and tools;
A savage horde among the civilized,
A servile band among the lordly free!"

This provision for the education of the children by the state should be sure and as ample as the means of the people will justify. So far the state may and should go, but no further. Universal education is one of the greatest of blessings; but I would not imperil, even for universal education, the integrity of the family.

The dangers to the welfare of society resulting from a great mass of illiteracy are appalling; but the evils of illiteracy are less perilous than those which result from the destruction of parental authority and the loosening of family ties. I prefer the barbarism of freedom to the barbarism of tyranny, even though that tyranny be that of the majority. The administrative machinery necessary to enforce attendance from the children of unwilling parents on the public schools is of such a character as to extend into what has heretofore been regarded as the sacred domain of private life, the power of agencies which have been reserved by society for the punishment of criminals. It is a form of despotism which runs counter to the oldest traditions of the Anglo-Saxon peoples, and involves, I think, a radical reconstruction of the basis of American institutions. If there are no limits to the interference of government with the rights of the family, if the will of the majority has a right to do whatever it may please with the minority, even though the minority be but one, we shall have substituted for our free institutions the socialistic despotism of the many instead of the individualistic despotism of one or a few. Effective compulsory education laws must give to the government or agent of the government the right to enter the home, take possession by force of a child who is guilty of no offense, and whose parent, for reasons best known to himself, or at any rate in the exercise of his God-given parental right, has detained the child at home,—the sacred refuge of all that is holiest and purest and best in our civilization,—and carry that child by force into a school in which the government has such instruction given as, in its opinion, that is, the opinion of the despotic majority, is best for the child and for the state. It will make little difference whether or not the parent believe that the daily instruction of the child should be accompanied by religious sanctions which this majority refuses to recognize. It will make no difference if, in the opinion of the parent, the quality of the instruction given in the school may be detrimental to the child's intellectual welfare, or the associations which will surround the child in the school be injurious to his moral growth. This imperious majority recognizes no rights inherent in the family or the parent which it is bound to respect. Compulsory education laws may indeed grant to parents the option of establishing other schools than those supported by the state, and of sending their children thereto.

The advocates of these laws claim that provision is made in this way against violation of the rights of conscience. Suppose, however, that the parents believe, as many parents do believe, that the welfare of the child's soul will be imperilled by attendance on the public schools, and suppose further that the residence of the parent is such as to preclude the possibility of his establishing another school which, in his opinion, would furnish safe instruction for his child. How can the compulsory be enforced in a case like this without violation of the fundamental right of religious freedom? The pathway of history is thick strewn with warnings against the tyranny of the majority. For a thousand years men believed

that they were doing God and man service by putting to death men and women who did not subscribe to the dominant religious faith.

They were sure that they were right. The most strenuous advocates of universal education are not so confident to-day of the necessity of universal education to the perpetuity of free institutions and to proper preparation for citizenship, as the religious zealots of the 11th century were of the necessity of conformity for the salvation of the soul. Nor are the leaders of educational thought so nearly agreed to-day upon what are the most essential things to be taught in the schools as the leaders of the church were upon the tenets of the church in the centuries gone by. Here and there great thinkers tell us, how that, some of the subjects taught and many of the methods pursued in elementary schools, as well as in the higher schools, are out of harmony with the best life of the individual and of the race.

As for myself, I have no doubt that such instruction as is given in our schools is an incalculable blessing to most of the children. But shall I, because I believe this to be true, make it a crime for a parent, who has the divine right of control over his own child, not to conform his action and views to mine, even though I be on the side of the majority, and the parent be but one?

So far as I am able to judge from the reports to which I have had access, that is, the reports of the Superintendents of the states in which compulsory education laws have been tried, I am forced to the conclusion that so far such laws have been ineffective in this country. Dr. Boone, in his excellent monograph on education in the United States, though favoring compulsory education, admits that the laws requiring attendance on the schools are at best inefficient, if not unmeaning, as they stand on the statute books of most of the states. "Their execution," he says, "is irregular, halfhearted, or ignored." This statement is attested by the statistics gathered by the National Department of Education and summarized in the report for the year 1886-7. In the report for this year, the number of pupils enrolled to every one hundred children between the ages of six and fourteen, shows a marked decrease for the decade, in the North Atlantic, the North Central, and Western divisions, that is, in those divisions of the United States in which compulsory attendance laws are generally in force; while in the South Atlantic and South Central divisions, in which no such laws are in force, the number of the pupils enrolled to every one hundred children between the ages of six and fourteen shows a very marked increase.

These surprising facts led the Commissioner to ask: "Has the public school system reached and passed its maximum phase in the north and west? Is universal education by the state an abstraction not to be realized in the concrete?" The explanation given of the decrease in the enrollment by the Secretary of the Board of Education of the State of Connecticut, Hon. C. D. Hine, seems to me conclusive. "It is probable," he says, "that the compulsory law itself has contributed to this result. Under its provisions, those over fourteen were legally exempt, and felt that they were morally relieved from school obligations. Those under eight were also little pressed, and there was no forced regularity. The large class between eight and fourteen, which is the proper and promising school age, found that the state permitted absence for six of the nine school months. With this high sanction, if there was no desire to attend, or no home impulse, the state limit became the standard, and convenience or necessity regulated attendance." Compulsory education was once the law of my own state, but no serious effort was made to enforce it. The law was so unpopular that it contributed to a reaction in public sentiment against the whole public school system, which retarded its progress and impaired its efficiency. Texas lost ten years in the progress of its public schools on account of this reaction. Who can estimate the evils that follow to the whole social fabric from the non-enforcement of a law? A law unenforced does not lessen the evil which the law was intended to remedy, but degrades law itself and increases the evil. If such laws as have been put in operation to compel attendance on the schools in those states in which public school sentiment is strongest, and in

which, consequently, public opinion might be expected to be most powerful in their support, have been ineffective, what result can we expect if we enact more stringent laws to secure the same result? Are we not working in the wrong direction when we seek to accomplish, by the strong arm of the law, results which can only be attained by an uplifting of the social forces, by strengthening and purifying public opinion?

I hold compulsory education laws to be unnecessary, if not pernicious. The American public school system has been built up without the aid of such laws, and the public school has become a vital institution to the whole people. It has reached more effectively the masses of the people than any other system in any great nation. Experts from the old world who have visited our shores and studied our institutions have borne emphatic testimony to the superiority of our people in regard to general intelligence and morality. The latest testimony from a competent critic is that of James Bryce, whose profound and comprehensive study of American institutions marks an epoch in the history of political literature. "Americans," he says, "are an educated people compared with the whole mass of the population in any European country except Switzerland, parts of Germany, Norway, Iceland, and Scotland; that is to say, the average knowledge is higher, the habit of reading and thinking more generally diffused than in any other country." He says further: "They are a moral and well conducted people. * * * The average of temperance, chastity, truthfulness, and general probity is somewhat higher than in any of the great nations of Europe. * * * Christianity influences conduct, not indeed one-half as much as in theory it ought, but probably more than in any other modern country, and far more than it did in the so-called 'ages of faith.'" No authority can be higher and no testimony more emphatic than that borne by Mr. Bryce. To these results, I doubt not the American public school has contributed most largely.

Some of the advocates of compulsory education, while they concede that it is unnecessary for our native white population, maintain that it is needed to Americanize the foreign element by which our population is annually increased, and especially to raise to fitness for citizenship the descendants of African slaves who constitute a large element of the population in several of our Southern states. Doubtless much inconvenience is experienced in many states from the presence of an unassimilated foreign element, who have brought to this country traditions and usages which are not in accord with our American institutions, and it can not be questioned that republican institutions are imperilled or have been imperilled in several Southern states by the infusion into the body of voters of a vast number of people who had no preparation either by education or tradition for the duties of freemen.

So far as the Southern states are concerned, I think I may say confidently that the danger point for them has been passed. These states have met bravely, heroically, the necessities of the situation, and have made such provision for the education of the negro as well as of the white population as their means would justify.

No people in any age of the world have made so much progress in popular education, in the same period, as the Southern states have made during the past fifteen years. This progress has been made without the aid of compulsory education laws, and the progress made during this period is but a promise and pledge of still further progress as the means of the people increase, and the work of the public schools is more thoroughly understood. The experiment of compulsory education in these states would be perilous to the cause of the public schools, and would probably produce a reaction against public schools which would stop their growth and impair immeasurably their efficiency. The great need of the South, and may I not say of the whole country, is not more stringent laws requiring children to attend the schools, but better schools, better equipment of the schools, more and better school-houses, and, above all, better teachers.

The many agencies which make public opinion are enlisted on the side of the public school. Our press is friendly, the various religious denominations, with perhaps a single exception, have not only grounded their arms as against the public schools, but their leaders are aiding in im-

proving public sentiment for better schools. The wisest leaders see in the public school a solution of the so-called race question. As the negro becomes fitted for citizenship, he becomes more conservative, and as he is pressed by industrial necessities, and trained to habits of right thinking, he ceases to antagonize blindly the interests of property owners, and of those who do now and will always control the destinies of this country.

Compulsory education laws arouse all the latent opposition to the public school system, and unless their effects should differ from their effects in other states in which they have been tried, under more favorable conditions, they would not lessen, rather increase, the evils of illiteracy.

The relation of the question to the foreign element, which constitutes so large a part of the population of some of the Northern States, I am unable to discuss at first hand; but I venture to suggest that our ancestors were all foreigners, and that the time-spirit in this great country of ours will conquer even the most obstinate part of this foreign element and harmonize it with our institutions.

In conclusion, let us all unite in the great work of improving the facilities offered by our public schools; let us strive to raise teaching to the rank of a learned profession; let us bring the public school to the door of every family in the land; but as we build up the public school to the highest standard of possible power, let us not seek to invade the province of other vital and more fundamental institutions.

Let us leave to public opinion, the most potent agency in this free republic, to parental affection, to social forces, to industrial necessities, the work of getting the children into the schools. Let us remember that it is the duty of the government to provide the schools, and the privilege of the citizen to avail himself of their blessings.

Let us make the schools so good, so bright, so winning, that the children will love the schools, so that each child will be a missionary in the cause of education, and let us never forget that the life of education is inextricably entwined with that of freedom. The spirit of education is the twin sister of the spirit of freedom.

Nowhere, perhaps, is the necessity for improvements in statistical methods more clearly apparent than in the statistics of school attendance in the United States. The nomenclature is confused and varying. The expression "school age" has a different meaning in different states, depending upon the number of years fixed in each state by law as the age period during which attendance on the public schools shall be free. While it is thus quite impossible in many cases to compare attendance in one state with attendance in another, no similar difficulty exists in this state, where all the district schools operate under a general law, in comparing county with county. From the report of the Commissioner of Education we print such data with reference to attendance in the various states as we deem valuable for this report. Taking the Commissioner's reports from year to year it is gratifying to observe the increasing fullness of the state reports:

From the report of the Commissioner of Education 1887-88.

STATE COMMON SCHOOL STATISTICS.

Preliminary Remarks—Population Statistics (Table 1)—School Age and School Census (Table 2)—Enrollment (Table 3)—Average Daily Attendance (Table 4)—Total Attendance; Length of School Term (Table 5)—Number of School Buildings; Seating Capacity (Table 6)—Private Schools (Table 8.)

PRELIMINARY REMARKS.

Statistical returns in whole or part for the year 1887-88 were received in time for insertion in this report from thirty-seven states and territories, including Georgia and Louisiana, whose returns for the calendar year 1887 are given. Nine states and territories are represented by returns for 1886-87; one (Delaware) by a return for 1885-86, while for New Mexico, the census of 1880 still furnishes the latest complete statistics that can be obtained.

The summaries for the United States and its different geographical divisions, therefore, are not for any particular date, must be considered as furnishing the latest aggregates available of enrollment, expenditure, etc.

In regard to the reliance to be placed upon the tables of state school systems much remains to be desired. Some of the causes tending to impair their trustworthiness were set forth in the last report of this office. No considerable improvement has been made in this respect. There is, in general, the same want of uniformity in methods, and in several cases the returns contain internal evidence of being highly incorrect. Of course, these causes affect the value of the summaries and averages made.

Moreover, it is apparent that no aggregate of enrollment, attendance, or expenditure can be made for the United States without a return from every state. In no case, however, is it, or has it ever been, possible to make such an aggregate from actual returns. Estimates on the best basis practicable have to be made to fill out the blanks in the most important columns. It is believed that the errors resulting from these estimates are considerably less than those due to the causes mentioned in the preceding paragraph.

On account of these considerations the results obtained by the Bureau must be considered as mere approximations. Still, by a careful study of them, much valuable information may be obtained, and many conclusions drawn that are unmistakable. The lines along which the greatest development is taking place are plainly indicated.

POPULATION STATISTICS—HOW COMPUTED.

The mode of computing the statistics of population given in this table was fully set forth in a previous report (1885-86, pp. 22-3.)

The United States census of 1880 is taken as a basis; the rate of increase from 1880 in each state is assumed to be the same as the rate of increase of the school population as determined by the school census, where one is taken, which is now the case in all but eight of the states and territories. Where the enumeration of the school population is correctly made each year or at stated periods, the total population, or the population of any specified ages, can be computed for any given date with sufficient accuracy for all practical purposes.

Where there is no school census, the rate of growth from 1870 to 1880, or from 1860 to 1880, is assumed to be continued on into the present decade. Of course, such an assumption may not be warranted by the facts, and may lead considerably astray. But it has been deemed the best one for the purpose, and in any case it is better to use the population so computed than to use at this late date the old figures of 1880.

TABLE 6.—*End of School Year; Total Population and proportion thereof to area; Population, 6 to 14, and proportion thereof to total population; mainly for 1887.*

STATE OR TERRITORY.	School Year Ended—	Estimated Total Population. <i>a</i>		Estimated Population 6-14 <i>a</i>	
		Number.	Average number to a sq. mile.	Number.	Average number of persons 6 to 14 in each 100 of total population.
1	2	3	4	5	6
North Atlantic Division:					
Maine.....	Mar. 31	642,784	21.5	102,970	16.02
New Hampshire.....	Mar. 31	368,900	40.9	51,699	14.03
Vermont.....	Mar. 31	353,504	36.5	54,531	16.35
Massachusetts.....	Mar. 31	2,007,356	249.7	285,374	14.71
Rhode Island.....	Apr. 30	316,542	291.7	48,947	15.18
Connecticut.....	Aug. 31	680,535	140.5	106,125	15.59
New York.....	Aug. 31	5,460,536	114.7	899,750	16.45
New Jersey <i>b</i>	Aug. 31	1,309,631	175.7	231,547	17.68
Pennsylvania.....	June 4	4,911,394	109.2	926,617	18.87
South Atlantic Division:					
Delaware <i>c</i>	June 30	158,788	81.0	28,966	18.24
Maryland.....	June 30	1,041,302	105.6	198,880	19.10
District of Columbia.....	June 30	213,143	3,532.4	36,967	17.34
Virginia.....	July 31	1,724,068	43.0	370,866	21.52
West Virginia.....	June 30	733,443	29.8	162,275	22.12
North Carolina.....	Nov. 30	1,730,460	35.6	373,229	21.57
South Carolina.....	Aug. 31	1,124,123	37.3	250,131	22.25
Georgia <i>d</i>	Dec. 31	1,726,029	29.3	383,196	22.20
Florida.....	Sept. 30	371,546	6.9	82,449	22.19
South Central Division:					
Kentucky <i>b</i>	June 30	1,866,241	46.6	404,220	21.66
Tennessee <i>b</i>	June 30	1,611,709	43.4	403,157	22.25
Alabama.....	Sept. 30	1,579,012	30.7	351,834	22.37
Mississippi <i>b</i>	Sept. 30	1,250,793	27.2	288,106	22.87
Louisiana <i>d</i>	Dec. 31	1,162,242	25.6	251,818	21.67
Texas.....	Aug. 31	2,234,157	8.5	491,806	22.02
Arkansas.....	July 31	1,214,961	22.9	275,620	22.68
North Central Division:					
Ohio.....	Aug. 31	3,370,758	82.7	643,152	19.06
Indiana.....	Aug. 31	2,115,471	58.9	426,908	20.17
Illinois.....	June 30	3,338,548	59.6	656,442	19.66
Michigan <i>b</i>	Sept. —	1,966,374	34.2	348,603	17.73
Wisconsin.....	June 30	1,656,706	30.4	323,793	19.54
Minnesota.....	July 30	1,271,204	16.0	231,024	18.17
Iowa.....	Sept. —	1,808,616	32.6	354,748	19.61
Missouri <i>b</i>	June 30	2,490,597	36.2	524,457	21.05
Dakota.....	June 30	549,049	3.7	89,838	16.36
Nebraska.....	July —	911,009	12.0	180,322	19.79
Kansas.....	May 31	1,454,829	17.8	293,349	20.16
Western Division:					
Montana <i>b</i>.....	.....	111,844	.8	12,753	11.40
Wyoming <i>b</i>	Oct. —	85,000	.9	10,025	11.79
Colorado.....	June 30	293,361	2.8	36,305	12.38
New Mexico <i>f</i>.....	.....	119,565	1.0	23,352	19.53
Arizona.....	June 30	87,893	.8	11,066	12.52
Utah.....	June 30	184,345	2.2	30,678	21.52
Nevada.....	Aug. 31	57,775	.5	6,906	11.94
Idaho.....	Sept. —	90,138	1.2	14,897	15.03
Washington <i>b</i>.....	.....	169,235	2.5	30,034	17.75
Oregon.....	Mar. 7	255,686	2.7	47,039	18.40
California.....	June 30	1,090,778	7.0	172,912	15.85
Alaska.....	June 30	40,000	.1	8,000	20.00
SUMMARY.					
North Atlantic Division.....		16,030,882	98.9	2,716,660	16.95
South Atlantic Division.....		8,822,962	32.8	1,887,029	21.30
South Central Division.....		11,129,005	20.6	2,466,559	22.16
North Central Division.....		20,933,161	27.8	4,072,426	19.45
Western Division.....		2,554,620	2.2	404,901	15.85
United States <i>h</i>		59,470,630	20.5	11,547,575	19.42

a. Where the return is for 1887-88 the population is given for 1887; if the return is for 1886-87 the population is given for 1886; in each case at or near the beginning of the school year reported.

b. These statistics are for 1881-1887.

c. These statistics are for 1885-86.

d. These statistics are for 1887.

e. Governor's estimate.

f. These statistics are for 1880.

g. General agent's estimate.

h. Excluding Alaska.

SCHOOL AGE AND SCHOOL CENSUS.

There has been no change in the school age of any of the states or territories during the year for which the returns are tabulated.

Thirty-seven states and territories show an average increase of 2.20 per cent. in the school population. This is probably less than it should be. Ohio, Indiana, and Oregon all report a decrease of school population, when there is every reason to suppose that in such rapidly growing states there has actually been an increase. State Superintendent McElroy, of Oregon, attributes the apparent decrease in that state to the effect of a new law, under which duplicate enumerations are avoided, and therefore a more correct census is taken.

TABLE 7.—*Legal School Ages for various purposes, and School Censuses, mainly for 1887-88, compared with those for the preceding year.*

STATE OR TERRITORY	SCHOOL AGE.			SCHOOL CENSUS.			
	For Free Attendance.	For Compulsory Attendance.	For Distribution of Funds.	Between What Ages Enumerated.	Number Enumerated.	Increase or Decrease Since Preceding Year.	Increase or Decrease per cent.
1	2	3	4	5	6	7	8
North Atlantic Div:							<i>Per cent.</i>
Maine.....	4-21	6-16	4-21	4-21	211,980	D.....594	D.....23
New Hampshire..	5-21	8-14	5-21	5-21	(a)		
Vermont.....	5-20	8-14	5-20		(b)		
Massachusetts.....	No limit.	8-14	5-15	5-15	359,504	I....6,452	I....1.83
Rhode Island.....	5 upward.	7-15	c5-15	c5-15	64,395	I....1,196	I....1.89
Connecticut.....	4-16	d8-16	4-16	4-16	154,932	I....1,872	I....1.09
New York.....	5-21	8-14		5-21	1,772,958	I....9,843	I....56
New Jersey.....	5-18	7-12	5-18	5-18	374,011	I....9,846	I....2.70
Pennsylvania.....	6-21	0			(b)		
South Atlantic Div:							
Delaware.....	6-21	0	6-21	6-21	43,538		
Maryland.....	6-21	0	5-20	5-20	(b)		
Dist. of Columbia.	c6-17	0		c6-17	51,500	I....91,183	I....2.35
Virginia.....	5-21	0	5-21	5-21	4610,271	I....11,309	I....1.89
West Virginia.....	6-21	0	6-21	6-21	256,350	I....7,172	I....2.88
North Carolina.....	6-21	0	6-21	6-21	580,819	I....14,549	I....2.57
South Carolina.....	6-18	0			(b)		
Georgia.....	6-18	0	6-18	6-18	566,281	I....98,943	I....1.62
Florida.....	6-21	0	6-21	6-21	(a)		
South Central Div:							
Kentucky.....	6-20	0	6-20	6-20	641,638	I....17,391	I....2.79
Tennessee.....	6-21	0	6-21	6-21	640,014	I....16,564	I....2.66
Alabama.....	7-21	0	7-21	7-21	485,551	I....32,614	I....7.20
Mississippi.....	5-21	0	5-21	5-21	471,352	I....21,352	I....4.74
Louisiana.....	6-18	0	6-18	6-18	336,603		
Texas.....	8-16	0	8-16	8-16	528,110	I....20,232	I....3.98
Arkansas.....	6-21	0	6-21	6-21	388,165	I....13,398	I....3.58
North Central Div:							
Ohio.....	6-21	8-14	6-21	6-21	1,097,345	D..5,376	D.....49
Indiana.....	6-21	0	6-21	6-21	756,989	D..3,540	D.....46
Illinois.....	6-21	8-14	0-21	6-21	1,118,472	I....22,008	I....2.01
Michigan.....	5 upward.	8-14	5-20	5-20	619,979	I....16,212	I....2.69
Wisconsin.....	4-20	7-15	4-20	4-20	567,702	I....12,878	I....2.32
Minnesota.....	5-21	8-16	5-21	5-21	9416,560	I....18,870	I....4.74
Iowa.....	5-21	0	5-21	5-21	639,248	I....1,941	I....3.30
Missouri.....	6-20	0	6-20	6-20	838,812	I....15,340	I....1.86
Dakota.....	7-20	10-14	7-20	7-20	116,129	I....7,989	I....7.29
Nebraska.....	5-21	8-14	5-21	5-21	298,006	I....18,024	I....6.44
Kansas.....	5-21	8-14	5-21	5-21	532,010	I....5,276	I....1.00

a. Enumeration imperfect.

b. No school census.

c. Inclusive.

d. Certain exceptions are made in the case of children employed to labor.

e. These statistics are for 1886-87.

f. These statistics are for 1885-86.

g. Estimated.

h. Average annual rate of increase since the next previous census.

i. In 1885.

j. These statistics are for 1888.

k. These statistics are for 1887.

TABLE 7.—*Legal School Ages for various purposes, and School Censuses, mainly for 1887-88, compared with those for the preceding year—Continued.*

STATE OR TERRITORY	SCHOOL AGE.			SCHOOL CENSUS.			
	For Free Attendance.	For Compulsory Attendance.	For Distribution of Funds.	Between What Ages Enumerated.	Number Enumerated.	Increase or Decrease Since Preceding Year.	Increase or Decrease per cent.
1	2	3	4	5	6	7	8
Western Division:							<i>Per cent.</i>
Montana.....	4-21	8-14	4-21	4-21	23,165	I.... 2,972	I.... 14.72
Wyoming.....	7-21	7-16	.....	.....	(b)	.....	.....
Colorado.....	6-21	0	6-21	6-21	76,445	I.... 11,347	I.... 17.43
New Mexico.....	5-20	5-20	5-20	5-20	(b)	.....	.....
Arizona.....	6-18	0	6-18	6-18	10,303	.....	.....
Utah.....	6-18	0	.....	6-18	53,953	I.... 860	I.... 1.62
Nevada.....	6-18	8-14	6-18	6-18	9,748	D.... 80	D.... .81
Idaho.....	5-21	8-14	5-21	5-21	20,130	I.... 1,575	I.... 8.49
Washington.....	5-21	8-16	.....	6-21	47,431	.....	.....
Oregon.....	4-20	0	4-20	4-20	86,574	D.... 643	D.... .74
California.....	6-21	8-14	5-17	5-17	270,500	I c16,585	I ... c6.53
Alaska.....	No limit.	6-14	.....	.....	(d)	.....	.....
SUMMARY.							
North Atlantic Div.....	.....	.....	.....	.....	.....	.....	I.... e .96
South Atlantic Div.....	.....	.....	.....	.....	.....	.....	I.... e2.14
South Central Div.....	.....	.....	.....	.....	.....	.....	I.... e4.01
North Central Div.....	.....	.....	.....	.....	.....	.....	I.... 1.50
Western Division.....	.....	.....	.....	.....	.....	.....	I.... e6.82
United States.....	.....	.....	.....	.....	.....	.....	I... e2.20

a. These statistics are for 1886-87.

b. No school census.

c. Excluding the county of San Francisco.

d. It is estimated that there are 12,000 persons under twenty-one years of age.

e. Only those states for which the increase or decrease is tabulated enter into this summary.

ENROLLMENT.

The total number of pupils enrolled is reported at 11,952,204, and the annual increase 234,776, showing a growth of two per cent. per annum.

Here, also, as in the case of school population, there are probably some deficient reports; Indiana and Iowa both show a heavy decrease, 6.92 per cent. in the former case and 2.27 in the latter. On the other hand, in some states, as in Minnesota and Nebraska, there appears to be an abnormal increase.

Still, after taking all these circumstances into consideration, there seems no reason to doubt that the relative increase of school population and enrollment for the United States (2.20 and 2 per cent. respectively) is substantially as given in the tables, *i. e.*, that the school enrollment is not increasing as fast as the school population; this is apparent again from the footing of column 5, where it is seen that 20.10 per cent. of the total population are enrolled in the public schools, as against 20.38 per cent. given in the report of this office for 1886-87.

It will be instructive to compare these conclusions with the results deduced from the tables given on pp. 90-92 of the report just referred to. It was there shown that during the ten-year period ending with 1887 there had been a decrease in the population of children enrolled in the public schools in all except the South Atlantic and South Central Divisions. It would seem now that the growth of the public school system in the Southern states has nearly attained its maximum, after having reached a point in its development considerably below that occupied by the Northern states, as will appear from the summaries of column 6 of the following table. The statistics of one year, however, cannot be relied upon to furnish a final determination upon this point, but need further confirmation. It is certain, however, that the public schools of the South are not growing at the rate they were during the ten years referred to.

It would be desirable to know if the falling off in the public school enrollment were compensated by the increase in private school enrollment. On this point private school statistics are too meagre to furnish definite information.

In fourteen states and territories the average increase of the private school enrollment was 6.98 per cent. (Table 8, column 6), a quantity much larger than the public school increase in the same states.

The most complete and trustworthy data upon this head, however, are furnished by a group of states comprising Massachusetts, Rhode Island, Connecticut, New York, and New Jersey. In these five states the school population increased 1.08 per cent. during the last year reported, while the public school enrollment increased only 0.28 per cent., the actual increase being 4,938. But in the same states there was an increase in the private school enrollment of 12,956. If these were added to the increase of public school pupils, there would result a total increase of pupils attending some kind of school of 17,894, or 1 per cent., which is nearly equal to the increase of school population. It may be said, therefore, that in these five states the proportional number of children attending some school, public or private, has not perceptibly decreased.

The conclusion presents itself, then, that in these states, and presumably elsewhere, there is going on a transfer of pupils from the public to private schools. This circumstance is of the greatest significance and demands careful consideration. The public schools are supplied with better teachers and better material appliances for education than ever before, and more money is expended upon them. The cause of their retrograde movement in the older states of the North, if such exists, is to be sought for in connection with conditions arising from the growing complexity of our civilization and the development of ever greater extremes of wealth and poverty, but chiefly, perhaps, from the increasing prevalence of a belief in the necessity of certain forms and subjects of instruction that the public schools do not or cannot give.

TABLE 8.—*Enrollment in Common Schools, mainly for 1887-88, compared with same for the preceding year, with the total population, and with the population 6 to 14.*

STATE OR TERRITORY.	Total Enrollment excluding Duplicates.	Increase or Decrease since Preceding Year.	Increase or Decrease Per Cent.	Average Number Enrolled to Each 100 of Total Population.	Average Number Enrolled to Each 100 of Population 6 to 14.
1	2	3	4	5	6
North Atlantic Division:			<i>Per cent.</i>		
Maine.....	144,180	D.....1,350	D......93	22.43	140.02
New Hampshire.....	61,826	I.....1,056	I.....1.74	16.77	119.50
Vermont.....	68,453	D.....2,949	D.....4.13	20.53	125.53
Massachusetts.....	368,000	I.....4,639	I.....1.31	17.83	121.20
Rhode Island.....	52,722	I.....3,215	I.....6.49	16.66	109.73
Connecticut.....	126,055	I.....261	I......21	18.52	118.78
New York.....	1,033,269	D.....4,543	D......44	18.92	114.84
New Jersey <i>a</i>	224,107	I.....1,366	I......61	17.11	96.79
Pennsylvania.....	941,625	I.....13,001	I.....1.40	19.17	101.62
South Atlantic Division:					
Delaware <i>b</i>	33,802			21.29	116.70
Maryland.....	176,587	I.....1,318	I......75	16.96	88.79
District of Columbia.....	34,850	I.....1,432	I.....4.29	16.35	94.27
Virginia.....	330,280	I.....5,096	I.....1.57	19.16	89.04
West Virginia.....	180,251	I.....9,942	I.....5.54	25.80	116.62
North Carolina.....	337,382	I.....12,103	I.....3.72	19.50	90.40
South Carolina.....	198,434	I.....18,417	I.....10.52	17.21	77.33
Georgia <i>c</i>	342,294	I.....22,570	I.....7.06	19.83	89.33
Florida <i>a</i>	82,453			23.25	104.79
South Central Division:					
Kentucky <i>a</i>	2319,022	I.....16,186	I......5.34	19.63	78.92
Tennessee <i>a</i>	2406,945	I.....77,484	I.....f 1.86	22.57	101.44
Alabama.....	267,288	I.....7,856	I.....3.03	16.92	75.97

a. These statistics are for 1886-87.*b.* These statistics are for 1885-86.*c.* These statistics are for 1887.*d.* Highest number enrolled.*e.* Ten counties estimated.*f.* Estimated.

TABLE 8.—*Enrollment in Common Schools, mainly for 1887-88, etc.—Continued*

STATE OR TERRITORY.	Total Enrollment ex- cluding Duplicates.	Increase or Decrease since Preceding Year.	Increase or Decrease Per Cent.	Average Number En- rolled to Each 100 of Total Population.	Average Number En- rolled to Each 100 of Population 6 to 14.
1	2	3	4	5	6
South Central Division—Continued.			Per cent.		
Mississippi <i>a</i>	270,744			21.49	93.97
Louisiana <i>b</i>	111,828	I.....743	I......87	9.62	44.41
Texas.....	364,744			16.33	74.15
Arkansas.....	202,754	I.....d14,354	I.....d7.62	16.06	73.59
North Central Division:					
Ohio.....	772,032	I.....5,002	I......65	22.90	120.04
Indiana.....	514,463	D.....38,249	D.....6.92	24.32	120.59
Illinois.....	751,349	I.....1,355	I......18	22.50	114.45
Michigan <i>a</i>	421,308	I.....4,658	I.....1.12	21.42	120.81
Wisconsin.....	332,721			20.08	102.75
Minnesota.....	287,382	I.....33,522	I.....13.21	22.61	124.90
Iowa.....	477,184	D.....11,101	D.....2.27	26.38	134.62
Missouri <i>a</i>	585,353	I.....16,401	I.....2.88	23.50	111.61
Dakota.....	93,826	I.....4,076	I.....4.54	17.09	104.44
Nebraska.....	215,880	I.....21,619	I.....11.13	23.70	119.72
Kansas.....	403,351	I.....11,797	I.....3.01	27.73	137.50
Western Division:					
Montana <i>a d</i>	13,100			11.70	102.72
Wyoming <i>a</i>	5,622	I......634	I.....12.71	6.61	56.08
Colorado.....	50,745	I.....7,635	I.....17.71	17.30	139.77
New Mexico <i>e</i>	4,755			3.98	20.36
Arizona.....	6,617	I......683	I.....11.51	7.53	60.11
Utah.....	32,988	I......432	I.....1.33	17.89	83.14
Nevada.....	7,511	D.....133	D.....1.74	13.00	108.63
Idaho.....	10,433	I......560	I.....5.67	10.52	70.04
Washington <i>a</i>	29,902			17.72	99.86
Oregon.....	52,638	D......387	D......73	20.59	111.91
California.....	207,050	I.....10,143	I.....5.15	18.98	119.74
Alaska.....	f1,435			3.59	17.94
SUMMARY.					
North Atlantic Division.....	3,010,237	I.....14,696	I......49	18.78	110.81
South Atlantic Division.....	1,730,333	I.....976,030	I.....h4.62	19.50	91.17
South Central Division.....	1,945,325	I.....669,200	I.....h3.69	17.48	78.87
North Central Division.....	4,854,858	I.....652,760	I.....h1.10	23.19	119.21
Western Division.....	421,451	I.....922,000	I.....h5.53	16.50	104.00
United States t.....	11,952,204	I.....9234,776	I.....g2.00	20.10	103.50

a. These statistics are for 1886-87.

b. These statistics are for 1887.

c. Eight cities and five counties not re-
porting.

d. Estimated.

e. These statistics are for 1880.

f. Including two Government contract
schools.g. An estimate embracing all the states
of the group to which it belongs.h. This summary embraces only the
states tabulated above in the same
column.

i. Excluding Alaska.

AVERAGE DAILY ATTENDANCE.

The latest returns of the average daily attendance of pupils throughout the United States in public schools aggregate 7,852,607, with an increase over the preceding year of 200,860, as nearly as can be ascertained, or 2.62 per cent. The increase has been estimated for eleven states and territories, but the total probably does not exceed what it should be, unless the tabulated increase for West Virginia, Florida, or Colorado is too large. The large increase in South Carolina arises from the reopening of certain schools which were closed the preceding year. Eight states show a decrease, which is probably incorrect in some.

The fact that the increase of average daily attendance (2.62 per cent.) is greater than the increase of enrollment (two per cent.) can only be explained on the supposition that the children who do go to school attend more regularly than formerly; and, moreover, so great is this increase in regularity of attendance that it has been sufficient to neutralize or mask the falling off in the percentage of the school population enrolled, noted in connection with the preceding table; so that while fewer different children go to the public schools, the schools are actually more largely attended than before.

This same increasing regularity of attendance was shown in the last report of this office (1886-87, p. 61) to have been going on since 1876. The present figures confirm the existence of this movement, and tend to establish its continued operation. The number of pupils attending on an average for every one hundred enrolled increased from 60.31 in 1876-77 to 64.13 in 1886-87, and is now (column 7 of the following table) 65.70.

Column 8 of table 4 gives the average number of pupils to a teacher, and is based on the number of teachers necessary to supply the schools. Nineteen states report this latter quantity, and in those states the average number of pupils to a teacher is 24.32. The fewest teachers are found in the District of Columbia, while they are most abundant in Dakota, the general rule being that there are the most teachers in the least thickly settled communities.

TABLE 9.—Average Daily Attendance in Common Schools, mainly for 1887-88; compared with the same for the preceding year, with the total population, with the population 6 to 14, with the enrollment, and with the teaching force.

STATE OR TERRITORY.	Average Daily Attendance.	Increase or Decrease since Preceding Year.	Increase or Decrease Per Cent.	Number of Pupils in Average Daily Attendance to Each 100 of—			Average Number of Pupils in Attendance to a Teacher.
				Total Population.	Population 6 to 14.	Enrollment.	
1	2	3	4	5	6	7	8
North Atlantic Division:							
Maine.....	102,960	D.....1.556	D.....1.49	16.02	99.99	71.41	19.19
New Hampshire.....	44,878	I.....1.739	I.....4.03	12.18	88.81	72.59	.....
Vermont.....	46,061	I.....1.356	I......78	13.81	84.47	67.29	18.08
Massachusetts.....	264,723	I.....2.564	I......98	13.19	89.62	73.05	30.93
Rhode Island.....	33,583	I......951	I.....2.91	10.61	69.90	63.70	30.42
Connecticut.....	81,098	I.....2.117	I.....2.68	11.92	76.42	64.34	26.03
New York.....	630,595	I.....4.985	I......80	11.55	70.09	61.03	27.35
New Jersey a.....	131,867	D.....2.613	D.....1.94	10.07	56.95	58.84	.....
Pennsylvania.....	674,179	I.....4.447	I......86	13.73	72.76	71.60	.....
South Atlantic Division:							
Delaware b.....	c21,859	.....	.....	c13.77	c75.47	c64.67	.....
Maryland.....	94,978	D.....1.434	D.....1.49	9.12	47.76	53.78	27.14
District of Columbia.....	26,512	I......646	I.....2.50	12.44	71.72	76.08	40.54
Virginia.....	180,416	I.....4.806	I.....2.65	10.99	51.06	57.35	.....
West Virginia.....	122,020	I.....14.127	I.....13.09	16.64	75.19	64.47	.....
North Carolina.....	208,667	I.....12.538	I.....6.30	12.06	55.90	61.84	.....
South Carolina.....	139,557	I.....14.036	I.....11.18	12.42	55.79	72.15	.....
Georgia d.....	226,290	D.....117	D......05	13.11	59.05	66.11	.....
Florida a.....	51,059	I.....6.246	I.....13.94	14.40	64.89	61.92	22.03
South Central Division:							
Kentucky a.....	208,476	.....	.....	12.83	51.58	65.35	.....
Tennessee a.....	c200,883	D.....7808	D......28	16.06	72.15	71.13	.....
Alabama.....	170,896	I.....8.380	I.....5.16	10.82	48.57	63.94	.....
Mississippi a.....	163,864	.....	.....	13.01	56.88	60.32	.....
Louisiana d.....	80,107	I.....1,522	I.....1.94	6.89	31.81	71.63	.....
Texas.....	286,022	.....	.....	12.84	58.33	78.97	.....
Arkansas f.....	132,800	I.....9,400	I.....7.62	10.93	48.20	65.50	.....
North Central Division:							
Ohio.....	529,719	I.....10.609	I.....2.04	15.72	82.36	68.61	.....
Indiana.....	408,775	I.....20,947	I.....7.91	19.32	95.82	79.46	.....
Illinois.....	518,043	I.....11,846	I.....2.34	15.52	78.01	68.95	.....
Michigan a f.....	266,000	.....	.....	13.53	70.28	65.14	26.06
Wisconsin f.....	210,000	.....	.....	12.68	64.86	65.12	25.94
Minnesota.....	126,468	I.....1,635	I.....1.31	9.95	54.74	44.01	18.13
Iowa.....	291,070	D.....3,359	D.....1.14	16.09	82.05	61.00	18.82
Missouri a.....	378,572	I.....4,263	I.....1.14	15.20	72.18	64.67	32.24
Dakota.....	53,211	.....	.....	9.69	50.23	56.71	12.02
Nebraska.....	129,623	I.....7,623	I.....6.25	14.23	71.88	60.04	18.73
Kansas.....	245,881	I.....14,497	I.....6.27	16.90	83.82	60.96	23.34
Western Division:							
Montana a f.....	8,200	.....	.....	7.33	64.30	62.50	.....
Wyoming a f.....	3,750	I......450	I.....13.64	4.41	37.40	66.70	.....

a. These statistics are for 1886-87.

b. These statistics are for 1885-86.

c. Approximately.

d. These statistics are for 1887.

e. Sixteen counties estimated.

f. Estimated.

TABLE 9.—Average Daily Attendance in Common Schools, mainly for 1887-88, etc.—Continued.

STATE OR TERRITORY.	Average Daily Attendance.	Increase or Decrease Since Preceding Year.	Increase or Decrease Per Cent.	Number of Pupils in Average Daily Attendance to Each 100 of—			Average Number of Pupils in Attendance to a Teacher.
				Total Population.	Population 6 to 14.	Enrollment.	
1	2	3	4	5	6	7	8
Western Division, Cont'd			<i>Per Cent.</i>				
Colorado.....	31,516	I... 4.273	I... 15.68	10.74	86.81	62.11	23.95
New Mexico a.....	3,150	.....	.....	2.63	13.49	06.25	.....
Arizona.....	3,849	.....	.....	4.38	34.96	58.17	.....
Utah.....	19,689	I... 577	I... 3.02	10.68	49.62	59.69	.....
Nevada.....	5,149	D... 750	D... 12.71	8.91	74.65	08.55	22.68
Idaho b.....	6,400	I... 350	I... 5.80	6.46	42.96	61.30	.....
Washington c.....	21,604	.....	.....	12.76	71.93	72.03	.....
Oregon.....	35,473	D... 1,653	D... 5.17	13.37	75.41	67.39	.....
California.....	132,227	I... 2,930	I... 2.27	12.12	76.47	63.86	.....
Alaska.....	533	.....	.....	1.33	6.66	37.14	.....
SUMMARY.							
North Atlantic Division.	2,009,944	I... 12,990	I... .65	12.54	73.99	66.77	236.50
South Atlantic Division.	1,080,846	I... 652,000	I... 75.06	12.25	57.25	62.80	725.70
South Central Division.	1,333,948	I... 636,500	I... 72.81	11.90	54.08	68.57	.....
North Central Division.	3,157,362	I... 692,590	I... 73.02	15.08	77.53	65.03	722.87
Western Division.....	271,007	I... 66,810	I... 72.58	10.61	66.93	64.30	726.28
United States g.....	7,862,607	I... 200,860	I... 2.62	13.20	68.00	65.70	724.32

a. These statistics are for 1880.

b. Estimated.

c. These statistics are for 1886-87.

d. Sixteen counties estimated.

e. An estimate embracing all the states of the group to which it belongs.

f. Only the states tabulated above are represented in this summary.

g. Excluding Alaska.

TOTAL ATTENDANCE—DURATION OF SCHOOLS.

The aggregate number of days attended by all pupils appears in column 2 of the following table.

This is a fundamental quantity, which should be obtained directly from teachers' reports by a continued process of summing up, and not by operating upon any other quantities. It forms the basis of the most important statistical inquiries relating to attendance.

Reports apparently trustworthy and complete of the aggregate attendance in days have been received from twelve states. From these it has been computed that the aggregate schooling given in those states was sufficient to have given every child six to fourteen years of age 103.5 days. Of course, the introduction of reports from other states would change this average. The average number of days' attendance of each pupil enrolled was 93.7 days, in the same states.

The average number of days the public schools were kept, so far as reported, was 129 days (column 5.) In this computation those states were omitted in which the average duration of all the schools were not reported or could not be computed. Each state, as in all averages of this character, was given a weight proportionate to its number of schools. The result embraces thirty-eight states and territories.

The increase or decrease in the length of time the public schools were kept (column 6) has been ascertainable in thirty-two states and territories. Some states have lengthened their school term, others shortened it, in some cases to a considerable extent. The general resultant of all these movements, however, has been an advance of seven-tenths of a day for all the states entering into the inquiry.

It is known that the methods used in computing the average length of the school term are not uniform, and that in some of the states erroneous results are obtained. For these reasons the statistics relating to the length of the public school term are not entitled to the credit that appears to attach to them. It can only be said that we have reached a more or less close approximation of the number of days the public schools were kept, and that there has probably been no material change during the past year.

TABLE 10.—*Total Attendance in Days upon Common Schools, mainly for 1887-88, compared with the population 6 to 14, and with the enrollment; Average length of public school year in days, mainly for 1887-88, compared with same for preceding year.*

STATE OR TERRITORY.	Aggregate At- tendance in Days.	The Total At- tendance is Equivalent to attendance of each person 6 to 14 for—	Average num- ber of Days Attendance of each Pu- bly enrolled.	Average num- ber of Days the Public schools were kept.	Increase or Decrease.
1	2	3	4	5	6
North Atlantic Division:	<i>Days.</i>	<i>Days.</i>	<i>Days.</i>	<i>Days.</i>	<i>Days.</i>
Maine.....				112	0
New Hampshire.....				112	
Vermont.....	6,310,409	115.7	92.2	137	D...2
Massachusetts.....	44,738,187	151.5	125.0	160	I...6
Rhode Island.....	6,527,440	135.9	123.8	191	I...1
Connecticut.....				179.08	D...1.1
New York.....	115,317,080	128.1	111.6	180	I...1
New Jersey a.....				190	D...2
Pennsylvania.....				140.6	D...5.4
South Atlantic Division:					
Delaware.....				190	0
Maryland.....				183	0
District of Columbia.....	4,856,650	131.4	139.4	119	D...1
Virginia.....	22,542,884	60.8	68.3	102	D...5
West Virginia.....				63.4	I...3
North Carolina.....				72	0
South Carolina.....				665	
Georgia.....				130.3	I...7.3
Florida.....					
South Central Division:					
Kentucky a.....				95	
Tennessee a.....				77	D...3
Alabama.....				79.5	
Mississippi a.....	13,848,576	49.1	51.1	84	
Louisiana c.....				89.4	D...2
Texas.....				116.2	I...14.6
Arkansas.....					
North Central Division:					
Ohio a.....				150	D...11
Indiana.....				133	I...2
Illinois.....	79,416,048	121.0	105.7	153.3	
Michigan a.....				153	I...9
Wisconsin.....	30,373,009	93.8	91.3		
Minnesota.....	15,429,096	66.8	53.7	122	I...4
Iowa.....				154	I...6
Missouri d.....	44,412,944	84.7	75.9	105	I...3
Dakota.....				106	D...3
Nebraska.....				137	I...7
Kansas.....				124	I...10
Western Division:					
Montana a.....				115	I...1
Wyoming.....					
Colorado.....					
New Mexico.....					
Arizona.....				135	I...15
Utah.....				125.25	D...6.75
Nevada.....				187	
Idaho.....					
Washington.....					
Oregon.....				109	I...9.8
California.....	20,008,504	116.3	97.1	152	D...3.2
Alaska.....					
SUMMARY.					
North Atlantic Division c.....		133.2	114.3	156.8	D...2.2
South Atlantic Division c.....		97.2	75.0	95.3	I...3
South Central Division c.....		48.1	51.1	88.5	I...2.9
North Central Division c.....		97.7	86.7	137.1	I...2.6
Western Division c.....		116.3	97.1	139.3	D...1
United States c.....		103.5	93.7	129.0	I...7

a. These statistics are for 1886-87.

b. These statistics are for 1888.

c. These statistics are for 1887.

d. White schools.

e. These summaries embrace only the states tabulated in the corresponding columns above.

PRIVATE SCHOOLS.

The reports of private schools are considerably fuller this year than the preceding one. In one division, the North Atlantic, all the states but two are represented.

The increase of the private school enrollment, compared with that of the public schools, has already been referred to (p. 88.)

Column 5 gives the proportion of pupils who attend private schools. In 20 states and territories 9.38 per cent. of all pupils, on an average, or nearly one-tenth, are private school pupils. It will be observed that, so far as known, private schools have received a greater development in the Northern states than in the Southern, and in the older states than in the newer.

The necessity of securing statistics of private schools continues to receive attention. State Superintendent Thayer, of Wisconsin, says upon this point: "Until all institutions of every grade that engage in the instruction of persons of school age in the state are required by stringent legislation to report annually, at least, the number thus instructed, it will be impossible to ascertain with accuracy the proportion of our school population which is failing to secure an elementary education. Every person or association of persons receiving pupils between the ages of four and twenty years for instruction should be required to register the name, age, days of attendance, and studies pursued by each pupil, if a resident of the state, and annually furnish an abstract of the record thus taken."

TABLE 11.—*Number of Pupils Enrolled in Private Schools, mainly for 1887-88, compared with the same for preceding year, and with the total number of pupils; also total number of pupils of all kinds compared with the population 6 to 14.*

STATE OR TERRITORY.	Estimated Private School Enrollm't.	Increase or Decrease Since Preceding Year.	Increase or Decrease, Per Cent.	Ratio of Private School Enrollm't to Total Public & Private School Enrollment.	Average Number Enrolled in Public and Private Schools to Each 100 Persons 6 to 14.
1	2	3	4	5	6
North Atlantic Division:			<i>Per cent.</i>	<i>Per cent.</i>	
Maine					
New Hampshire	7,632	I...1.214	I...18.86	11.01	134.30
Vermont	6,972	D...534	D...7.11	9.24	138.31
Massachusetts	30,090	I...1.149	I...3.97	7.75	131.39
Rhode Island	8,886	I...280	I...3.36	14.42	128.23
Connecticut	17,179	I...1.126	I...7.69	11.99	135.00
New York	142,240	I...9.189	I...6.91	12.10	130.65
New Jersey a	37,630	I...1.103	I...3.00	14.44	113.13
Pennsylvania					
South Atlantic Division:					
Delaware					
Maryland	15,000			7.83	96.33
District of Columbia	3,119			8.21	102.71
Virginia					
West Virginia					
North Carolina	25,000			6.00	97.00
South Carolina					
Georgia					
Florida	4,110				
South Central Division:					
Kentucky					
Tennessee					
Alabama					
Mississippi a	b18,000			b6.23	b100.22
Louisiana c	d22,849				
Texas					
Arkansas					
North Central Division:					
Ohio					
Indiana					
Illinois	100,465	I...12.640	I...14.39	11.79	129.76
Michigan a	32,607	I...3.106	I...10.53	7.18	130.16
Wisconsin	10,000			2.92	105.84
Minnesota					
Iowa					
Missouri					
Dakota	1,500	I...710	I...89.87	1.57	106.11
Nebraska					
Kansas					
Western Division:					
Montana a	457	I...90	I...27.65	3.37	106.30
Wyoming					
Colorado	847	D...1.005	D...56.38	1.64	142.17
New Mexico					
Arizona	300			4.34	62.83
Utah	e6,975				
Nevada					
Idaho					
Washington					
Oregon	4,618	D...316	D...6.40	8.07	121.72
California	20,768	D...1.893	D...8.35	9.12	131.75
Alaska	f382			21.02	22.71
SUMMARY.					
North Atlantic Division g			I...5.75	11.53	18.94
South Atlantic Division g				7.28	97.19
South Central Division g				b6.23	b100.22
North Central Division g			I...13.93	8.29	122.61
Western Division g			D...10.72	7.56	127.54
United States g h			I...6.98	9.38	120.40

a. These returns are for 1886-87.

b. Approximately.

c. These statistics are for 1887.

d. Returns incomplete.

e. Seventy-nine schools reporting out of 89.

f. Including Seal Island schools (enrollment 82).

g. These summaries embrace only the States tabulated in the same column above.

h. Excluding Alaska.

FROM THE REPORT OF THE COMMISSIONER OF EDUCATION FOR 1887-88.

TABLE 12—Summary, by States, Geographical Divisions, and Classes according to Population, of Comparative Statistics of Enrollment, Attendance, Teachers, and Sittings, in Schools of Cities and Towns containing over 4,000 Inhabitants.

1	STATE OR TERRITORY.																High Schools.								
	Ratio of Total Public and Private School Enrollment to Population 6-14.		Ratio of Public School Enrollment to Population 6-14.		Ratio of Private School Enrollment to Total Public Enrollment.		Ratio of Average Attendance to, Enrollment.		Average Number Days Attendance of Each Person between 8 and 14 for—		Number of Pupils in Average Attendance to Each Teacher.		Ratio of Male Teachers to Whole Number of teachers.		No. of Sittings to,			Ratio of Enrollment to— Total Public School Enrollment. Population 6-14.			Ratio of Average Attendance to Enrollment.				
															Each 100 Pupils Enrolled.	Each 100 Pupils Attending.	Average Number of Sittings to a Building.								
																							11	12	13
2	Per cent.	3	Per cent.	4	Per cent.	5	P. ct.	6	P. ct.	7	Days.	8	9	Per ct.	10	11	12	13	14	Per cent.	15	Per cent.	16	Per cent.	
Alabama			64.9		48.9	72.5				121.7	84.0		40.4	17.1		101.0	139.4								
Arizona																									
Arkansas			88.6	17.2	58.0	65.4	113.8	100.3	44.5	15.3	97.1	146.4	252.8	15.3	7.3	97.1	146.4	252.8							
California			98.1	16.6	50.1	71.5	141.0	116.7	37.6	7.3	76.1	114.0	317.2	7.3	3.0	76.1	114.0	317.2	3.0	2.6					
Colorado			142.1	14.5	83.8	50.0	97.6	138.8	31.3	16.3	101.8	172.5	316.7	16.3	3.9	101.8	172.5	316.7	3.9	5.5					
Connecticut					78.1	70.0								31.3	11.2	92.2	140.6	172.1							
Dakota			134.2	5.9											4.6	86.9	130.0	205.5	5.5	7.0					
Delaware					66.9	130.8		35.5	1.2	130.8				1.2	9.7	86.9	130.0	205.5							
District of Columbia			95.6	8.2	72.8	71.9	133.3	133.3	42.7	20.3				20.3	3.9	87.9	115.6	340.6	3.9	3.7					84.3
Florida				23.8																					
Georgia			63.3	31.8	51.1	80.0	152.9	97.9	46.4	12.2	91.9	114.8	327.3	12.2	5.9	91.9	114.8	327.3	5.9	3.7					
Illinois			83.3	30.6	61.9	71.6	142.6	119.1	39.1	6.7	92.3	124.7	450.9	6.7	4.2	92.3	124.7	450.9	4.2	3.3					
Indiana			72.3	19.9	54.7	68.9	136.2	100.4	35.0	29.3	94.5	124.6	325.9	29.3	6.7	94.5	124.6	325.9	6.7	5.2					
Iowa			104.1	15.8	73.7	69.5	128.3	133.5	33.6	12.3	90.9	132.0	282.1	12.3	0.4	90.9	132.0	282.1	0.4	5.0					
Kansas			104.1	15.8	73.7	69.5	128.3	133.5	33.6	12.3	90.9	132.0	282.1	12.3	0.4	90.9	132.0	282.1	0.4	5.0					
Kentucky			65.2	19.0	49.3	72.7	146.8	105.9	44.0	15.8	90.3	130.0	282.2	15.8	5.8	90.3	130.0	282.2	5.8	4.8					
Louisiana															3.4	93.3	122.4	332.7							
Maine			108.5	15.6	88.6	80.2	144.3	150.6	30.7	11.4															
Maryland			101.3		63.9	63.1	126.8	128.4	33.5																
Massachusetts			115.8	13.7	62.5	72.3	118.1	169.2	34.5	10.0	94.3	135.9	160.0	10.0	2.5	94.3	135.9	160.0	2.5	2.5					84.5
Michigan			80.7	22.5	69.5	72.3	138.6	127.8	35.4	5.5	94.3	134.8	319.1	5.5	6.8	94.3	134.8	319.1	6.8	6.2					85.8
Minnesota				19.0	66.6	66.6	129.0			5.6	108.8	158.3	377.2	5.6	5.0	108.8	158.3	377.2	5.0						76.5
Mississippi			76.8	27.5	51.0	66.4	111.9	85.9	46.1	11.2	85.0	126.8	380.4	11.2	3.6	85.0	126.8	380.4	3.6	4.3					90.0
Missouri			77.9	23.3	50.1	67.0	121.3	87.7	32.5	12.1	94.1	172.5	142.3	12.1	4.6	94.1	172.5	142.3	4.6	4.6					89.7
Montana			138.1	6.0	75.3	54.5	101.4	140.0	36.6	6.8	86.9	128.7	261.5	6.8	4.8	86.9	128.7	261.5	4.8	5.4					77.7
Nebraska			112.0	9.8	78.0	69.1	120.1	145.9	52.4	10.0	121.7	145.3	400.6	10.0	7.4	121.7	145.3	400.6	7.4	9.4					87.1
Nevada			123.4	9.2	93.0	83.8																			

29	New Hampshire.....	131.2	103.7	33.4	76.4	73.3	135.3	136.4	30.2	6.4	111.4	140.2	99.6	8.2	0.4	80.9
30	New York.....	98.5	81.6	22.8	53.4	65.4	131.4	107.3	30.7	7.1	77.0	117.0	427.6	3.2	5.9	80.9
31	New Jersey.....	137.4	107.0	29.8	71.1	66.8	137.3	137.3	36.5	10.1	84.4	117.0	427.6	3.2	5.9	80.9
32	North Carolina.....	83.0	83.0	25.7	64.1	65.2	109.4	90.8	41.8	31.0	73.2	114.1	311.6	5.5	5.2	82.2
33	Ohio.....	120.5	89.6	13.4	76.9	68.5	136.3	132.9	37.5	10.4	103.7	134.8	431.8	2.7	5.2	80.3
34	Oregon.....	128.4	109.5	16.1	76.9	68.5	136.3	132.9	37.5	10.4	103.7	134.8	431.8	2.7	5.2	80.3
35	Pennsylvania.....	117.9	95.6	18.9	66.0	66.0	136.0	135.2	38.8	7.9	85.2	121.6	445.0	2.7	5.2	80.3
36	Rhode Island.....	101.1	81.6	31.4	66.0	66.0	136.0	135.2	38.8	7.9	85.2	121.6	445.0	2.7	5.2	80.3
37	South Carolina.....	101.1	81.6	31.4	66.0	66.0	136.0	135.2	38.8	7.9	85.2	121.6	445.0	2.7	5.2	80.3
38	Tennessee.....	78.4	61.6	17.6	57.1	60.9	118.5	106.7	42.2	13.5	80.9	95.5	566.1	3.8	2.8	77.5
39	Texas.....	110.7	81.8	31.7	43.3	52.0	136.0	135.2	38.8	21.5	82.8	116.6	370.5	4.0	2.6	81.1
40	Utah.....	101.2	82.4	18.5	62.8	76.2	130.7	115.2	44.2	17.0	102.1	140.4	420.9	6.3	5.0	80.3
41	Vermont.....	101.2	82.4	18.5	62.8	76.2	130.7	115.2	44.2	17.0	102.1	140.4	420.9	6.3	5.0	80.3
42	Virginia.....	206.6	164.3	50.1	90.3	60.5	118.3	104.5	35.2	9.8	101.4	120.0	357.7	3.6	3.0	82.6
43	West Virginia.....	100.4	84.5	15.8	71.4	84.5	163.3	138.1	38.7	13.6	91.2	127.5	201.8	5.6	5.0	73.6
44	Wisconsin.....	126.0	89.0	24.0	64.0	71.3	136.0	120.0	38.7	10.9	91.2	127.5	201.8	5.6	5.0	73.6
45	Wyoming.....	105.1	88.1	14.8	65.2	65.2	120.3	121.2	25.6	4.5	90.5	152.5	246.7	6.6	70.0	80.3
	North Atlantic Division, (a).....	120.3	105.5	18.9	74.1	68.9	132.4	130.1	36.4	9.4	87.0	128.0	295.1	4.3	5.7	82.6
	South Atlantic Division, (b).....	92.1	83.9	17.3	60.9	71.9	136.2	117.1	30.6	13.5	80.3	123.8	402.4	3.7	3.2	82.6
	South Central Division, (c).....	85.8	63.5	27.6	43.6	68.7	126.2	77.6	40.4	12.0	84.3	122.8	294.7	3.3	2.1	84.2
	North Central Division, (d).....	115.9	87.1	24.5	63.3	71.9	136.1	119.3	37.1	9.2	94.5	131.0	361.7	5.2	4.8	80.1
	Western Division, (e).....	105.1	88.1	16.7	61.7	60.9	137.1	121.2	37.2	8.6	83.3	120.1	362.9	3.4	3.1	82.5
	Cities of first class (population 200,000 and upward).....	121.7	90.1	24.2	63.1	67.9	131.1	117.0	38.1	8.7	83.8	126.3	670.4	2.6	2.7	82.7
	Cities of second class (population 100,000 to 200,000).....	89.6	73.3	19.5	48.9	68.3	133.3	94.0	37.1	7.8	83.2	123.1	513.8	3.1	2.0	86.3
	Cities of third class (population 50,000 to 100,000).....	110.6	93.3	18.0	60.3	73.6	144.6	135.1	37.3	7.9	80.4	122.2	337.5	4.6	4.6	75.1
	Cities of fourth class (population 25,000 to 50,000).....	108.7	86.8	20.9	63.1	72.3	135.4	116.5	35.9	9.4	92.0	127.8	306.7	5.1	4.4	82.3
	Cities of fifth class (population 10,000 to 25,000).....	118.9	97.0	18.6	70.7	72.4	135.5	132.8	36.1	10.7	95.8	132.9	235.7	6.3	6.2	81.6
	Cities of sixth class (population under 10,000).....	130.0	110.3	15.8	78.3	70.5	130.9	143.8	36.0	12.4	100.3	137.3	183.5	7.3	8.6	81.5
	United States.....	117.2	92.5	21.0	65.8	70.1	133.7	123.3	37.0	9.6	80.7	128.6	324.2	4.5	4.6	81.7

a. Comprising Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
b. Comprising Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.
c. Comprising Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, and Arkansas.
d. Comprising Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Dakota, Nebraska, Kansas, and California.
e. Comprising Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon, and Kansas.

A brief history of the growth of attendance upon the voluntary and board schools of England, since the passage of the Elementary Education Act of 1870, will be very instructive in connection with the subject of compulsory attendance.

The famous Duke of Newcastle's commission of 1858, may almost be said to have begun the establishment of the educational system of England.

The first duty of the commission was to inquire into the complaints made against the existing system; The most prominent of these were—that the cost of education was excessive and still increasing, that it failed to penetrate the rural districts, and that the instruction given, even at the best schools, was of an imperfect character. The system had confessedly accomplished great and beneficial results. Was it to be regarded simply as tentative and provisional, or did it admit of being developed into one which should be definite and final, and which should become the basis of a permanent and national system?

After three years of assiduous labor, the Duke of Newcastle's Commissioners presented their report in March, 1861.

They reported among other things that:

1. One in every eight of the population was at some time in some school or other.
2. Of the estimated number of two and one-half millions who ought to be at school, only 1,675,000 were in public schools of any sort.
3. Of the pupils in public schools only one-half were in schools receiving any grant, or under any sort of inspection.
4. The attendance in inspected schools was estimated at only 74.35 per cent. of the scholars on the books.
5. The number of assisted schools amounted to 6,897, containing 917,255 scholars; while 15,750 denominational schools, and about 317 others, containing together 691,393 scholars, were outside the range of the operations of the Department.
6. Of the pupils in inspected schools not more than one-fourth of the children were receiving a good education; the instruction given being too much adapted to the elder scholars, to the neglect of the younger ones.

This report was made the basis of the Revised Code (submitted to parliament by Mr. Lowe in 1861,) and further modified by recommendation of the committee of Council in 1862. and put into effect on June 30, 1862. The main principal, and the one which has not since been changed, is the plan of paying according to the results of the teaching.

Among the measures brought forward, which, during the period we have now passed under review (1862-1870), had been familiarising the public mind with ideas that were to find a leading place in the legislation of 1870, was the "Education of the Poor Bill," which was brought into the House of Commons in 1867, by Mr. Bruce, Mr. W. E. Forster and Mr. Algernon Egerton, and which, indeed, must be regarded as the parent of Mr. Forster's Bill. There can be as little doubt that the real, though not so modern, or so well remembered, original of this bill of 1867, was the "Manchester and Salford Boroughs Education Bill," which was brought into the House of Commons in the session of 1851-2, by Mr. Entwistle, M. P., Mr. Egerton, whose name stood on the back of the later bill, was the personal representative of the earnest and influential union of the friends of education in Manchester which brought forward this earlier bill. Fourteen or fifteen years, indeed, had not passed without removing some who had taken an active part in preparing the bill of 1851. But several still remained at their post ready to lend their best help to any honest endeavor to solve the educational problem of the nation. These

joined by other earnest friends of education, put the machinery into motion which in 1867 brought forward the bill of Messrs. Bruce, Forster and Egerton. It is not possible, indeed, to read the projected bill of 1851, without recognizing that it contains the substance of the bill of 1867. The chief points of coincidence between the two may be noted. Both were devised in Manchester; both had reference to individual boroughs (or districts); in both the local authority was to be the District Committee elected by the Town Council (or by the ratepayers in other than municipal districts); both gave such committees authority to levy local rates; both adopted existing schools as the basis of operation, and only contemplated the establishment of new schools in order to supplement the others where there might be need; both provided for the transference on fair terms of existing schools to the District Committee; both assumed that in all schools under the District Committee the reading of the Holy Scriptures should be part of the daily instruction of the scholars; both enforced a conscience clause substantially equivalent to that which was required by the act of 1870; both made provision for a system of local and subordinate inspection; both recognized the supreme authority of the Committee of Privy Council over the local schools and the local inspection. Adding to the bill of 1867 the strong outline of administrative interference which, about the same period, Mr. Lowe sketched out as necessary in order to carry out the work of national education; adding, further, the compulsory clauses which Mr. (afterwards Sir Thomas) Bazley desired to introduce into the bill of Messrs. Bruce, Forster and Egerton, we have, in fact, all the characteristic principles of the bill of 1870, as originally prepared by Mr. Forster. In his address, delivered at Edinburgh in November, 1867, on Classical and Primary Education, Mr. Lowe expressed himself as follows:

"I would say, commence a survey and report upon Great Britain parish by parish; report to the Privy Council in London the educational wants in each parish, the number of schools, the number of children, and what is wanted to be done in order to place within the reach of the people of that parish a sufficient amount of education. When that has been done, I think it should be the duty of the Privy Council to give notice to that parish that they should found a school, or whatever may be wanted for the purposes of that parish. If the parish found a school, then it would be the duty of the Privy Council to assist it, and that in the same way as it assists the schools already in existence. If the parish does not agree to do what needs to be done, then, I think, there ought to be power vested in the Privy Council or the Secretary of State or some other great responsible public officer, to make a compulsory rate on them to found that school. I think the schools they found should be entitled to the same inspection and examination as the schools already in existence, and receive the same grants for results."

Here we have in precise and full outline the provisions actually contained in the Act of 1870 with regard to the powers of initiation and interference possessed by the Privy Council for ascertaining the need and compelling the supply of education throughout the country. The super-addition of these provisions to the machinery for erecting and administering district school committees (or boards, in the language of the act of 1870) provided by the bills of 1857 and 1867, would have converted the local and permissive Manchester proposals into a national measure, identical in all main points with that of Mr. Forster. It must be noted also that in 1868 the Duke of Marlborough, as a member of Mr. Disraeli's government, introduced an educational measure into Parliament. This measure went almost wholly upon the old foundation of the then existing educational system of the country. The Government, however, was in no position to carry it through, and was succeeded very soon after by Mr. Gladstone's administration, as a member of which Mr. Forster introduced the measure of 1870.

The Act of 1870 gave an authority to the minutes of Council on Education, which they had not possessed before. Previously they had been simply regulations for the distribution of the Education Grant assented to by Parliament from year to year. By Section XCVII of the Act, such minutes, after having been laid on the table of both Houses of Parlia-

ment, acquired, for the time being, statutory validity until they were superseded by succeeding minutes.

Briefly, to summarize the main provisions of the Act of 1870, it abolished the building grant, but increased the grant for maintenance. Its object was, by means of school boards, to supplement, where necessary, the existing voluntary provision for efficient education. It removed the obligation of giving religious instruction as a condition of the receipt of annual grants, leaving such instruction unfettered by any restrictions, except those imposed by the Cowper-Temple clause, which affected board schools only. It separated religious from secular teaching, so that the latter might be accessible to those who could not on conscientious grounds take part in the former, and so that the Parliamentary grant might be made wholly in respect of the secular instruction. It enabled school boards to remit fees, and, with the consent of the Department, to establish free schools in special cases. And it armed school boards with compulsory powers.

A short amending Act in 1873, amongst other provisions, made obligatory the attendance at school of children whose parents were in receipt of out-door relief, and it required the board guardians to pay their fees. It also repealed the section in the Act of 1870, relating to school board elections, in regard to the taxation of costs charged by the returning officer. It had been found that school board elections were conducted too expensively, and there had previously been no effective power to limit the expense incurred. This Act accordingly gave to the Educational Department a final decision on appeals regarding the taxation of the returning officer's costs.

The Act passed in 1876 by Lord Sandon, now the Earl of Harrowby, (39 & 40 Vict. chap. 79), though in other respects of great importance, will, perhaps, in days to come, be chiefly memorable for the declaration which it placed on the English statute book, of the duty of every parent to educate his child. It enacts that "it shall be the duty of the parent of every child to cause such child to receive efficient elementary instruction in reading, writing and arithmetic; and if such parent fails to perform such duty, he shall be liable to such orders and penalties as are provided by this Act." Thus, for the first time, a legal obligation was created, binding on every parent, to give his child an education sufficient to ground it in the rudiments of learning, and at least to equip it with the means of extending its knowledge in future years.

With a view to enforce the obligation of attendance in an indirect manner, the Act of 1876 proceeds first to place restrictions on the employment of children until they have complied with certain educational conditions, and in the view of the Act, the parent of a child who employs it for the purpose of gain is deemed its employer. The fifth section makes it a statutory offense, with a penalty on conviction not exceeding forty shillings, on the part of any employer to take into his employment (a) any child who is under 10 years of age, and (b) any child over 10 and under 14, who shall not have attained such proficiency in reading, writing and arithmetic as is afterwards specified in the schedules to the Act. Since 1881 the degree of proficiency required is that prescribed in the Fourth Standard defined by the Code of 1876. But, failing this educational qualification for employment, the Act further provides a loop-hole for invincible dullness, by which a child over 10 years old who cannot pass the required standard, and who might therefore be kept from labor until the age of 14, without any educational advantages, may still be qualified to work if it can produce a certificate of its regular attendance at a certified efficient school for a certain number of years previous. This qualification for employment, which is known by the name given to it by Lord Sandon of "the dunce's pass," is now fulfilled by 250 attendances after five years of age, in not more than two schools in each year, during five years, whether consecutive or not. No evidence has been brought before us tending to show that parents have availed themselves to any extent of this door of entrance to employment for their children, and it may well be doubted whether its existence is very generally known. At present, however, and since the passing of the Act of 1880, it affects those children only who at the age of 13 have failed to pass the standard for total exemption from

school attendance, fixed by the bylaws of the district in which they reside.

From the restriction thus put on a child's employment there are special exemptions provided for all children allowed to go to work under those factory Acts which demand half-time attendance at school, as well as for all who are attending school half-time under any bylaws of a local authority. At the same time the education of children employed in workshops is withdrawn from the operation of the Workshops Regulation Act, and transferred to that of the Factory Acts. These two acts have since been consolidated.

The enforcement of these measures of indirect compulsion is committed by Lord Sandon's Act to local authorities, viz., to a school board in the district within its jurisdiction, and in other districts to a school attendance committee, appointed annually, if it be a borough, by the council of the borough, and if it be a parish, by the guardians of the union in which such parish is situate. The school attendance committee may consist of not less than six nor more than twelve members, one-third, however, in the case of a committee appointed by the board guardians, is to consist of ex-officio guardians. Another duty of the local authority under this Act is to report any infraction of Section VII. of the act of 1870, which regulates the time and conditions of giving religious instructions, commonly called the conscience clause. Power is also given to school attendant committees to appoint small local committees outside their own bodies in every school district, to aid them in their work; this power, however, appears to have been somewhat overlooked, and, at any rate, not to have been brought extensively into use.

Exceptions are made to these restrictions on the employment of children (a) in the case of those children who reside more than two miles from a public elementary school; (b) where the employment is at such times as not to interfere with the efficient elementary education of the child; (c) during a period exempted by special notice of the school authority for the necessary operations of husbandry and ingathering, an exemption which may be extended over not more than six weeks in a year.

The 25th section of the Act of 1870, which empowered school boards to pay fees in voluntary schools, as has been already observed, is repealed by the Act of 1876, and provision is made for imposing the duty on the guardians to pay, in whole or in part, the fees of children of indigent parents at any public elementary school chosen by the latter, but such payments do not carry with them any of those disqualifications attached to the receipt of parochial relief.

The uneducated child having thus been prohibited from employment, the Act of 1876 next proceeds to bring him into school by means of what is known as the "Wastrel Clause." The two classes of persons affected by it are, first, parents who habitually, and without reasonable excuse, neglect to provide efficient elementary instruction for their children, being over five years of age, and prohibited from full-time employment; and, secondly, children found habitually wandering, or not under proper control, or being in the company of rogues, vagabonds, disorderly persons, or reputed criminals. In these cases it is the duty of the local authority to complain to a court of summary jurisdiction, which may issue an attendance order, requiring the child to attend regularly at some certified efficient school willing to receive it, and named in the order. The following reasonable excuses, however, if they can be pleaded, are allowed, viz., that the nearest public elementary school is over two miles from the child's residence; or that the absence of the child from school has been caused by sickness or any unavoidable cause. In the event of the breach of such an attendance order for the first offense the court may impose a penalty not exceeding 5s., or order the child to be sent to an Industrial School, according as the parent fails to satisfy, or succeeds in satisfying, the court that he has used all reasonable efforts to secure compliance with the order. On the second or any subsequent breach of the order, the court may either order the child to be sent to an Industrial School, or impose a fine on the parents, or do both at its discretion. A fine may be imposed for each breach of the order, provided that complaint be not renewed at any less interval than two weeks. Children so sent to an In-

dustrial School shall be deemed to be sent under the Industrial Schools Act of 1866, and the parent shall be liable to contribute as under that statute. The local authority is bound to investigate any alleged case of neglect of children's education under the preceding section, and to proceed to enforce the prescribed penalties, unless it be deemed inexpedient to do so. A child thus sent to an Industrial School, may, after one month's residence therein, receive a license to live out of the school (under Section XXVII., Industrial Schools Act, 1866,) on condition of its attending regularly some certified efficient school willing to receive it. Powers are also given to a school board to erect and maintain a certified industrial or day industrial school, and to borrow money for the purpose under the Public Works Loan Act of 1875.

In 1880 Mr. Mundella's Act was passed, which established universal direct compulsion by the school authority, in contradistinction to the optional compulsion of Mr. Forster's Act, and the indirect compulsion of Lord Sandon's Act. Mr. Forster's Act had made the adoption of by-laws, regulating the attendance of children at school, optional in school board districts. Lord Sandon's Act had extended this option to all other school districts in England, and had aimed at securing education by enabling the school authority to forbid the employment of uninstructed children, and by stringent provisions against wastrel and idle children up to the age of 14. Mr. Mundella, carrying out in the Act of 1880 the intention announced by Lord George Hamilton, his predecessor in office, converted this option into an obligation on the part of every school authority. It did not, however, repeal the indirect methods of getting children to school which had been enacted in 1876. These remain side by side with the local by-laws as a collateral security for attendance, in the form of the prohibition of the employment of children who have not the legal qualification, and of penal clauses dealing with those, who, being thus debarred from work, are habitually absent from school. These clauses of the Act of 1876 are still available to deal with absence from school where it is flagrant, binding over, in the first instance, the culprit to attend regularly in future. The by-laws, which have, since the Act of 1880, been universally adopted, though varying in their provisions in different localities, take cognizance of the smallest deviations from regular attendance, and provide for summary punishment on the parent of the defaulter.

The tables furnished by the Educational Department, strikingly exhibit the increase that has taken place in the number of children brought into school since the passing of the Educational Act of 1870. Whereas in that year the numbers on the roll in elementary schools receiving annual grants amounted to 1,693,059, or 7.66 per cent. of the estimated population of the year, this number had risen in 1886 to 4,465,000, amounting to 16.24 per cent. of the estimated population for the latter year. A portion of this increase is, indeed, due to elementary schools of a quasi-public character already in existence, which, during that period, came under the purview of the Department for the first time, through their admission to the annual grant. A further portion of the increase may be ascribed to the substitution of public elementary schools for private adventure schools of varying types and quality. But the larger proportion of this very remarkable increase is a genuine addition to the number of children under efficient instruction.

Mr. Cumin has given it as his opinion that at present almost every child goes to an efficient school for a certain time in its life. In like manner the belief is shared by the present and former chairman of the London School Board that, speaking generally, the whole school population of London is now on the roll, though Mr. Diggle admits that there must always be a residuum, belonging to the neglected classes, which the machinery of the school board is unable to reach. Even these, he thinks, have at some time or other mostly attended a school. But the proportion of those not attending any school, Mr. Cumin believes, is being gradually reduced in England, and the migration of parents is, he thinks, accountable for a good many of these cases. Throughout England and Wales the Report of the Department for 1886-87 (page 242) shows that the number of scholars between 7 and 11 years of age on the

registers of aided schools is equal to 95 per cent. of the number of children of that age belonging to the class usually found in elementary schools. In some agricultural parishes every child of school age is known to be at school. That such a result should have been brought about in so short a time, and with so little friction, affords no small ground for satisfaction.

In like manner the regularity of attendance, as shown by the percentage of the number on the roll who are in actual average attendance, steadily, though much more slowly, increases. Almost everywhere, however, there is still room for improvement, and in some instances to a considerable extent. Throughout England and Wales the average attendance of the registered scholars has risen from 68.09 per cent. in 1870 to 76.27 in 1886. In London this figure rises to 78.9; in the counties of Bedford, Oxford, and Westmoreland to 80; and in Berks to 81 per cent. In Huddersfield, where special pains are taken to improve the attendance, it is as high as 84 per cent. in the board schools, and 81 per cent. in the voluntary schools; while in a large voluntary school at Liverpool it rises to 94 per cent., probably approaching the highest point to which regularity can be forced without a careful sifting of scholars, the ordinary absence from sickness and infection alone being supposed to approach 5 per cent., but it must be added that in Liverpool the names are removed from the registers more rapidly than in other districts. Any good school in a town which from its popularity is able to pick its scholars finds little trouble in getting regular attendance; and the same may be said in many a country school in which the clergyman, the teacher, and the leading residents exert all their influence to get the children to attend. One condition, however, of a high percentage of attendance is that the school shall be thoroughly good, and another, that the children shall like it. This is most likely to be the case where the buildings are warm and cheerful, and where the school is in charge of a teacher who does not think that his duties to his scholars begin and end with the school hours, and who lives in the midst of them.

Among the causes which have largely tended to promote regularity of attendance, we should do wrong to omit the value which parents who have themselves reaped the advantage of elementary education attach to a school for their children. A person wholly illiterate is probably skeptical as to the benefits of education; one who has been himself educated, even though imperfectly, is better able to comprehend the value to his children of the discipline and instruction to be gained by punctual attendance at school. The former will not exercise his personal influence to carry out school regulations, while the latter, being alive to the need of education and of intelligent training, will be more ready to co-operate with the school authorities. From the educational progress recorded since the date of the Duke of Newcastle's Commission, it is manifest that this class of motives must have been for some years largely increasing in operation. Neither ought we to omit from consideration the improved homes and greater comfort, at the present time enjoyed by the working classes, which tend to increase their sense of the ill consequences attending upon ignorance.

It is, however, to compulsion, first partially introduced in 1870, widely extended in 1876, and fully and universally established in 1880, that the increase of the numbers on the roll is largely attributable. Among the witnesses before us, Mr. Stewart appears to stand alone in his opinion that, provided the required accommodation had been furnished, the result would have been much the same if attendance had not been obligatory. But to estimate fairly the influence which compulsion has had upon the great increase in the number of children attending school, to which we have already called attention, we must speak of it under the three heads into which its operation may be divided. There is, first, the direct influence of compulsion. This is exerted over parents who are indifferent to the moral and intellectual welfare of their children, who are very eager to obtain what advantage they can from those children's earnings, but who never look beyond. The fear of punishment has, no doubt, affected this section of the population who send their children because

they feel obliged; although in large towns, by frequent removals from one neighborhood to another, they often elude the vigilance of the attendance officers. But, secondly, compulsion exercises an indirect influence. Many parents are apathetic, yield weakly to their children's wish not to go to school, or find it convenient to use their services at home, and so, if left to themselves, would make but little effort to insist upon their children's attendance at school. But they are keenly alive to the disgrace of being brought before a magistrate, the fear of which supplies a stimulus sufficient to make them do their duty in this respect. In addition, the existence of a compulsory law has considerably affected public opinion, and has done much to secure a larger school attendance by making people recognize that the state regards them as neglecting their duty if their children remain uneducated. It is probable that the law of compulsion has exercised greater influence on school attendance from these causes than any other. Lastly, the introduction of labor certificates, by the Act of 1876, has exerted considerable power over the minds of many thrifty parents, who have been anxious for their children to obtain exemption from school attendance at as early an age as possible, that they may begin to earn money for the benefit of the family. But however adequate an instrument compulsion has proved for getting children on to the school register, it is confessedly much less effectual in increasing the regularity of attendance. The children who have been enrolled by its means come chiefly from the more ignorant and careless families, and are naturally the least likely to attend regularly. And, in addition, the latitude allowed in carrying out the law of compulsion is too great to secure a satisfactory amount of regularity, seven attendances out of every ten most frequently satisfying the authorities.

As a means of enforcing compulsion on certain classes of children, the day industrial schools established in several large cities under the Act of 1876, have been found efficacious. Irregular children and children of negligent parents, are detained in these schools, in which they are fed as well as taught; and orders are made by the magistrates on the parents for contributions towards the cost. A large number of the scholars who have been sent to these schools merely on the grounds of irregularity, are discharged after only a few months' detention, on condition that they attend an ordinary elementary school with regularity; and their attendance while thus "on license" is supervised by a special officer, attached to the staff of the day industrial school, instead of the ordinary attendance officer. The results in many cases have been most satisfactory, the attendances of these children in Liverpool, after leaving the day industrial school, have reached 87 per cent. of all possible attendances. Detention in these schools further provides a suitable substitute in many cases for commitments to ordinary boarding industrial schools, in which the public expenditure involved is very heavy. The average detention in a boarding industrial school is 5½ years, and the average cost rather more than 20*l*. a year. Each child, therefore, detained in such a school costs on an average about 115*l*., of which about 85*l*. fall upon the local authorities and Her Majesty's treasury. A successful experiment made by the Rochester School Board, which has established a day industrial school of a special type, shows that it is possible for the smaller boards to deal at a very reasonable cost with the case of children now usually sent to boarding, industrial, or truant schools. We have not taken special evidence upon the subject of industrial schools, as a Royal Commission has recently reported to Your Majesty respecting them.

Another aid to the enforcement of compulsion, which has been found useful in some districts, has been the establishment of truant schools, in which children are detained for short periods under a discipline which, in its earlier stages, at least, is of a punitive character.

But beyond the point at which the efficiency of compulsion becomes exhausted, the influence and resources of managers and teachers often secure good results in the matter of regularity and of voluntary attendance beyond the obligatory standard, and we think a good deal more might be accomplished by the same means. It is generally admitted that, although compulsion may be necessary in certain cases, it is most

desirable to minimize the resort to it, as far as possible, by appealing to other and higher motives, and especially by efforts to interest parents in their children's progress. Among many other means by which this end might be secured, it has been suggested to us that, as has already been done with very good results in some schools, a report should, at the close of each school year, be sent home to the parent of each child, conveying information as to the child's punctuality, general conduct, and educational progress. Another means of attaining the desired end would be to encourage scholars to take home some of their most interesting reading books, and to read them to their parents, most of whom would be able to appreciate their progress in reading, and might also often be interested in the subject of the book. If manual training, moreover, be introduced into elementary schools, the parents' appreciation of its value will, it may be hoped, stimulate them to make increased efforts, not only to secure regular attendance, but also to prolong their children's stay at school beyond the period legally enforced. Prizes for regular attendance have been tried with good effect by the Liverpool Council of Education, a voluntary body under whose auspices a most efficient system of co-operation between board and voluntary schools has been established. In Manchester the school board gives rewards for good attendance, and is satisfied with the results.

The Selmaston plan, introduced by Rev. W. D. Parish, which has found many imitators among the managers of voluntary schools, deserves separate mention. In this small village in Sussex, where formerly, Mr. Parish states, the attendance was shocking, the school fee was raised in 1871 from 1*d.* to 3*d.* a week with a promise of a return of 2*d.* a week at the end of the year to each child who had attended 240 times, together with a prize of 1*s.* for each pass at the inspectors' examination. The result is said to have been that the regularity of attendance is far in advance of any school in the neighborhood, nor has any case of non-attendance ever been referred to the magistrates. This plan, however, involves so large an immediate expenditure per head out of voluntary sources that it is not likely to be generally adopted, unless the circumstances of a district are exceptional. But where no special expedient is resorted to, many witnesses concur in representing that a great deal of power may still be exerted by the personal influence both of managers and teachers to improve the attendance, even where compulsion has exhausted its powers.

Many questions have been put to the witnesses before us as to the efficacy of the law of compulsion, and its administration by the local authorities, the attendance officers, and the magistrates. Of the action, or rather the inaction, of the magistrates, complaints are very general. In the replies we have received to circular A, both the managers of voluntary schools and school boards, complain that compulsion is not carried out efficiently. We are told that there is no uniform system; that the magistrates are lenient, and will not enforce the penalties; that the expense of prosecution is too great; and that the procedure is extremely dilatory and inefficient. It is also suggested that the costs should fall upon the parents; that the fines should be increased and a payment enforced; and that a mode of legal compulsion should be adopted which does not treat parents as criminals. In some cases managers complain that the local authorities are indifferent, and do not enforce attendance; and that when members of those bodies are interested in juvenile labor, the law is evaded, and employers are never summoned. Complaints are also made that the attendance officers are inefficient; that their districts are much too large; that many of them have other occupations, for instance; that some are relieving officers; and that the magistrates will not support them when they are energetic. A few witnesses suggest that the Department should undertake compulsion, and that the police should be employed as attendance officers. In the replies of the head teachers to circular D, the same complaints are made, and with greater frequency. It is said that the compulsory clauses are inoperative; and that neither magistrates, local authorities, nor attendance officers are efficient. Complaints are made that the fines imposed are so trivial that the children

when employed can earn many times the amount during their absence from school. Some suggest that school cases should be dealt with in a special court, or on separate days, others recommend that conviction should be prompt, fines heavy, and that employers of children under the legal age should be severely punished.

It is but fair to notice Mr. Cumin's remark, that the blame may sometimes lie with the local school authorities, who have not always been judicious in the selection of cases for prosecution. Canon Warburton, who thinks the bench does not now deal strictly enough with offenders, considers it fortunate that in the earlier stages of compulsion they took a lenient view of their duty. The London police magistrates have, for some reasons, so far limited the number of summonses to be heard in any one day that the carrying out of the compulsory law is said to be seriously impeded in the case of school board prosecutions. But, apart from this, the ordinary police court has been represented to us as a specially unsuitable place for assembling the parents of irregular scholars, and it has been proposed to appoint special magistrates and special places for hearing school board cases. Mr. Buxton, the late chairman of the London School Board, complains that the attitude of the Metropolitan police magistrates has even tended to prejudice the public against the law, and to throw the burden of the costs on the school board instead of on the offenders. We invite attention to the list of cases referred to by Mr. Buxton in support of his complaint, which will be found in the appendix (page 1021) of our Second Report. It has been contended that it would be of advantage to appoint a special magistrate for London to adjudicate on school attendances cases, who should hold sittings in the various districts of the metropolis at an hour and place where other police cases were not being heard; but we think such a plan objectionable on principle. We have also had some evidence to show that the dilatory process of recovering fines under the Summary Jurisdiction Act of 1879 has, in some cases, encouraged parents to defy the law, and that it has added greatly to the labor involved in carrying out compulsion.

The chief complaint with respect to attendance officers is that they are too few in number for the work to be done, that they have other duties to attend to, which engross too much of their time, and that they are too easily satisfied with an imperfect attendance. We are told of schools which are only visited two or three times a year by the attendance officer, who is satisfied with one out of every two attendances. Under these circumstances it is plain that such an agency is powerless to grapple effectively with the evil of irregularity. In country districts, however, the influence of the managers, and a little personal trouble on the part of the teachers out of school hours, are as effective for securing regularity as the action of the attendance officer. Meanwhile the managers can always appeal to the local authority in cases where that officer is unable or unwilling to discharge his duties efficiently. We are of opinion that periodical returns of absentees from each school should always be called for by the local authority, with whom, and not with their attendance officer, it rests to decide upon the number of attendances that will justify them in not enforcing compliance with the letter of their by-laws.

We think also that it is of great importance that local committees should be more generally appointed in each district by school attendance committees, under section 32 of the Act of 1876. The members of such a committee would themselves be likely to know the circumstances of each family, and, as they could deal with cases of irregularity on the spot, the parents would not be compelled to attend the meetings of the school attendance committee, often held at long distances from their homes. It is much to be desired that school attendance committees should hold meetings from time to time in various parts of their district accessible to the population.

Many complaints have been made against school attendance committees; but one of the witnesses who complained, when reminded of the fact that the average attendance in five at least of the rural counties, which are chiefly under school attendance committees, rose to nearly 82

per cent., whereas the average of England was only 76 per cent., admitted that, judged by results, those local authorities could not be so negligent of their duty as was sometimes assumed. This admission is confirmed by a table printed in the Appendix to our third Report (pages 740-1,) which fully bears out the assertion of those who maintain, that as far as regularity of attendance is concerned, the efficacy of school attendance committees is at least as great as that of school boards. The conditions, however, of regular school attendance are so complex, and so essentially different for urban and rural districts, that we cannot make any certain comparison between the relative efficiency of compulsion, as enforced by school attendance committees and school boards, based simply on school attendance. In the country the element of distance and bad roads tells against attendance; on the other hand, the accommodation is generally sufficient in quantity, and the schools, having a settled constituency, do not suffer from the evil of migration. In the towns there is sometimes a deficiency of school supply; the poorest parents are less under the control of public opinion, and the low parts of large towns attract a population more difficult to deal with than any in the rural districts. It is admitted, that school attendance committees, which rest on the area of the union, are likely to be more effective in enforcing attendance than boards elected by parishes with a small population. In small areas, such as many of the rural parishes, many school boards appear to be peculiarly ineffective in carrying out compulsion, and some have occasionally to be declared in default. On the other hand, many of the larger school boards leave little to be desired in the vigor with which they look after the attendance. Huddersfield appears to be a good example of what may be done in a large population, where the board acts vigorously, employs sufficient officers, and is backed by a sympathizing bench. The table inserted below, which appeared in the Report of the Committee of Council (1881-2) (p. xxxi), throws light upon the comparative activity at that date of the various classes of educational authorities:—

TABLE 19.

	School Boards.	School Attendance—Committees for—		
		Boroughs.	Unions.	Urban Sanitary Districts.
1. Number.....	2,076	112	580	69
2. Who have appointed no attendance or inquiry officer	(a)496	..	10	..
3. Who have instituted no prosecution of parents or employers.....	1,029	12	55	8

(a) These are mostly the boards of very small parishes, in which the members themselves, or the teachers, act as attendance officers, and with good results.

The evidence before us generally tends to the conclusion that parents are becoming more and more reconciled to compulsion. But from Welwyn, in Herts, Menai Bridge, in Wales, and Dibden, in Hampshire, we have been informed that it is very distasteful to parents in those places. These, however, are just the localities where it is said by the same witnesses that compulsion is not effectively carried out.

Unfortunately, the desire to get the standard of exemption passed has not strengthened, but has rather superseded, that desire of parents for the improvement of their children, which was the only motive to be appealed to before attendance at school became compulsory. From every

quarter we have been told that a very great majority of children now leave school as soon as they are legally exempted from attendance, and that the education of the majority of scholars is thus prematurely closed. We find it difficult, however, to reconcile some of the statements made to us, as to the withdrawal of children from school at an earlier age than formerly, with the figures in one of the returns furnished to us by the Education Department to be found in Appendix D. of our First Report (page 522.) These figures, for purposes of comparison, may be conveniently given for three years of special interest in our educational history, 1870, 1875, and 1880, and for 1886. They show the following percentage of scholars on the registers of schools inspected in each of these years:—

TABLE 20.

	1870.	1875.	1880.	1886.
Scholars above 10.....	27.86	29.13	33.55	33.74
Scholars above 12.....	9.55	9.64	12.78	11.98
Scholars above 13.....	4.09	3.36	5.	4.18

The gross number of scholars, represented by these percentages, show a very considerable increase. The number of children above 12 on the registers was—

In 1870.....	161,703
1875.....	264,700
1880.....	498,199
1886.....	536,616

The remarkable increase between 1875 and 1880 may probably be attributed to the universal application of direct compulsion in 1880, although the improvements in the Code of 1875 do not appear to have been followed by a corresponding improvement in the attendance of the scholars. In parishes where there is much demand for children's labor, and where the standard of exemption is as low as the fourth, several witnesses have assured us that few children remain at school after 10 years of age. But the consequences of premature removal from school, on passing the standard prescribed as a condition of labor, are even more serious where the demand for juvenile labor is slack. An interval then occurs between the completion of school life and the entry on employment which, in the case of boys especially, is most injurious to character, and leads to the loss of what little of intellectual acquirements they had gained at school. At Stoke-upon-Trent, for instance, Sir Lovelace Stamer points out that while a total exemption from school can, under the by-laws, be easily reached at 11, under the Factory Acts full-time work is not attainable till the age of 13, and we gather from his evidence that the interval between 11 and 13 is too often wasted in idleness with the worst effects on those who are condemned to it. In this respect, therefore, the forward child is left in a worse position than the wastrel, who must either go to work or continue at school till he is 14 years old.

Two classes of remedies have been proposed to us for the premature removal of children from school, immediately on their passing the minimum legal standard of exemption. The most obvious one is that of raising the standard, so as to make compulsory education cover a larger part of a child's life. We have heard much evidence tending to show that the fifth standard might be made the universal minimum standard of exemption, as is the case in Scotland, without inflicting any serious injury on parents or employers. Such is the opinion, for example, of Mr. Synge, H. M., inspector in the eastern counties, with this proviso, however, that he would accept a pass in two subjects as a qualification for labor, if in the previous standard the pass had been a complete one; and he would give an additional qualification for labor, to be obtained by attendance only, so that dull children, whose school life is now prolonged to no good purpose

after brighter children of their own age have been discharged, might be set free to go to work on an attendance qualification in default of one gained by attainments. Several other experts advocated the universal adoption of the fifth standard for exemption from school attendance.

Mr. Oakley, whose experience as an inspector is long and varied, has a still bolder proposal to make, viz., that educational standards of exemption should be entirely abolished, and that an age standard should be substituted under the provisions he suggests. Half-time employment would, according to his proposal, not be accessible to a child till it was 10, or better still 11, and all children would be forced to remain at school till they were 13. It is obvious to remark that such a proposal would withdraw from the whole of school life the stimulus to attendance now afforded by the desire to obtain the prescribed educational qualification for employment. Nevertheless, Mr. Harrison, Her Majesty's Inspector for the Liverpool district, concurs in this recommendation. And it is a proof how grave must be the mischief for which so drastic a remedy is thought by experienced inspectors to be the only cure. We are bound, however, to record that we have received evidence from teachers and clergymen in the agricultural districts, to the effect that the compulsory retention of children at school to a greater age than at present is not feasible in those districts, chiefly owing to the poverty of their parents, but in some degree also to the requirements of agriculture, and these witnesses could not be brought to concur in the adoption of the fifth standard as a uniform one of exemption.

Managers, school boards, and teachers allude frequently to the want of a uniform standard of exemption, and many request that the standard of age should be raised. They say that there is great want of uniformity in the by-laws of neighboring school districts, and that the by-laws are often not in accord with the Factory Acts. Some say that a child may leave school after passing the exemption standards, or attend very irregularly for a year or more, before he can go to work under the Factory Acts. Parents, we are told, are prone to accept the minimum of school work fixed by the exemption laws as a maximum. Half-time is generally disliked by those teachers and managers from whom replies have been received, it is said to disorganize the school, and to be impossible except in purely half-time schools. The suggestions as to compelling attendance at school vary greatly in different districts; some would adopt a standard exemption, and others an age exemption only. The expression of opinion is very strongly in favor of a longer school life. Some think that managers and local authorities should have the right of exempting children in harvest and busy seasons, a power which the latter already possess, and also dull children; and many desire that the Education Department should fix a uniform age standard of exemption for the whole country. But it must be remembered that not only agricultural but many other employments require to be begun at an early age; and that industrial education is not always to be postponed for longer instruction at school. While we do not desire to see either the standard or range of elementary education unduly restricted, we must bear in mind that, in the case of children preparing for many employments, including agriculture, a prolonged school life is incompatible with the practical instruction in the field or workshop, which must necessarily commence at an early age.

We have received further evidence on the effects on the education of a child of the system of half-time exemption, as it is provided for by the Education Acts. The principle of day half-time has not yet been widely or successfully adopted in rural districts, and the general opinion seems to be that it is not suited to the existing requirements of agriculture in this country. Its advantages as a means of increasing the slender incomes of large families in rural districts have to be considered, but, in our opinion, these would be sufficiently met by the arrangement already sanctioned by the 9th section of the Act of 1876, which provides that the children actually needed for farming operations may be absent from school during those times when there is a pressure of work suitable to them, requiring them to attend school regularly during the remainder of the year, and also during the busy months, unless they can show that they are

bona fide employed in farm work. Subject to the recommendation which we have just made to the rural districts, we are of opinion that the minimum age for half-time exemption from school attendance should be 11, and the minimum age of full-time exemption 13. We think that the case of those young persons who have failed to make due progress in the day school may be best considered when we deal with the question of evening and continuation schools. A further point in connection with half-time attendance at school deserves attention. The Act of 1870 (sec. 74) provides for partial exemption in the case of any child, between 10 and 13, who passes a standard prescribed by the laws of its district. This privilege is limited by the by-laws generally, and also by the model by-laws of the Department, to children who are "shown to the satisfaction of the local authority to be beneficially and necessarily employed" when not at school. There is, moreover, a provision in the Code (Article 15) for securing to schools certain pecuniary advantages in respect of the attendance of half-time scholars, in compensation for the extra trouble and expense which they necessarily entail upon the managers and teachers. In the instructions issued to the inspectors after the adoption of this Article (1882,) the reasons for it were given in a circular dated March 16th, 1883, in the following words:

"This article must be read in connection with Article 11, in which, a 'half-time scholar is defined as 'a scholar certified by the local authority 'to be employed in conformity with the by-laws.' The rule laid down in Article 15 was adopted with the view of encouraging a systematic alternative of work and instruction for children who are obliged to go to labor before passing the standard of proficiency fixed by the by-laws of the district for total exemption from the obligation to attend school. "It was not meant to apply to cases of desultory school attendance, or to give any benefit to schools in respect of merely irregular scholars who have passed what is called the half-time standard, and are not habitually and necessarily at work when not at school." The system of half-time is firmly planted in the manufacturing districts under the Factory Acts, which, however, are not within the terms of our inquiry. The education of the children employed in workshops and factories is regulated by the Factory Act of 1878, and the beneficial result of that measure is shown by the fact that in the districts to which it mainly applies, a very large proportion of the scholars in the highest standards now consists of factory scholars. It is hoped that the article in question will secure to the children employed in other labor, not regulated by any Act, the benefit of similar educational advantages. In like manner in 1886 (Report of Committee of Council, 1885-6, page 166) the inspectors are told, "you should explain to the members of school boards that a child is bound to attend school full time whenever it is not *beneficially* and *necessarily* employed, and that a *bona fide* half-timer means a child who is legally at work when not at school." All this we are surprised to find is now omitted from the inspectors' annual instructions, with the result that the bearing of the article in question upon school attendance is likely to be forgotten, and that half-timers, other than those working under the factory laws, may probably be taken as meaning nothing more than irregular scholars. The last Report of the Department (1886-7, page 223) shows that while no fewer than 1,437,113 children from 10 to 13 were in 1886 borne on the registers of aided schools, only 168,453 were returned as half-timers under the Code. This latter number probably represents but few scholars other than factory scholars. Unless the object of the article, as originally explained by the Department, is better understood, and the half-time requirements of the by-laws are more stringently enforced, we fear that the children will lose the discipline of school, without having the benefit of the discipline of work.

We have thought it well here, in conclusion, to summarize the obstacles to school attendance, which are alleged to exist by those who are actively engaged in education, although many of these obstacles have already been incidentally mentioned. First in importance is the desire of parents to profit by their children's labor; a motive, however, which acts at the same time up to a certain point as the chief incentive to keep children

steadily at school, in order that they may be free to work at the earliest moment. And so far as premature employment is an obstacle, the poverty of many of the parents, both in towns and in country districts, makes it one exceedingly difficult to remove, and demanding very considerate treatment. The indifference of parents to education for its own sake, must, we fear, be reckoned as an obstacle, which has perhaps been aggravated by compulsion, and has, possibly, not yet reached its worst; though we believe that it will tend to decrease in proportion to the improvement of schools. Again, truancy, contrary to the wish of parents, is answerable for a certain amount of absence from school. Home needs, such as sickness in the family, the absence of the mother at work and nursing babies, keep many girls away, sometimes for long periods. In towns the migration of families, in the country bad roads and bad weather, are said to be fruitful sources of irregularity. We feel bound to draw attention to the tabulated replies from the managers of voluntary schools, school boards and teachers, to whom our printed inquiries were addressed, which bear witness to widely spread dissatisfaction with the administration of the compulsory clauses of the Education Acts, accompanied by a demand for a still more stringent system of compulsion. This expression of opinion, on the part of many of those conversant with the daily working of our educational system, respecting one of the most recent and most important provisions of the Educational Acts, requires from us a special notice. On consideration, it will hardly be a matter of surprise that this opinion should so largely prevail amongst managers and teachers. The former are often making great personal sacrifices to provide the education offered by their schools; both are daily witnesses of the vast benefits of it; and they have painful evidence of the difficulty of securing satisfactory results without regular attendance; while their schools, under the present system of Government grants, have a considerable pecuniary interest in the regular attendance of all the children in their district. Hence, they are impatient for the time when every child should be in its place whenever the school is open, and they are naturally intolerant of any delay or hesitation in the use of the powers of the law to attain at once this desirable end.

We are of opinion that, though there are undoubtedly very considerable local shortcomings calling for amendment, the vast increase in the school population receiving regular instruction, a result obtained in the short period of 17 years, may be considered most satisfactory, and that the absence of any serious opposition to compulsion on the part of the wage earning classes, notwithstanding its grave interference with their homes, is largely owing to the gradual steps by which it is being introduced. We cannot, therefore, endorse any general condemnation of the manner in which "compulsion" has hitherto been administered. At the same time, we recommend that a constant vigilance should be exercised by the Department with regard to the efficient action of local authorities in securing the attendance of children at school, in conformity with section 27 of the Act 1876, both through their inspectors and by means of periodical returns; and that the Department should report to Parliament at stated intervals upon the whole subject. There is a very general agreement among the managers, and still more among the teachers, that the age and standard for partial and for total exemption might be considerably raised. We have not recommended as great an increase in these requirements as is generally asked for, but we think that the consensus of opinion expressed will make it easier to carry out the alterations in the age of exemption which we have suggested.

The following are the general conclusions reached by the Committee:

ATTENDANCE AND COMPULSION.

That, though there are undoubtedly very considerable local shortcomings calling for amendment, the vast increase in the school population receiving regular instruction, obtained in the short period of 17 years, is a result of our educational legislation which may be considered most satis-

factory; and that the absence of any serious opposition on the part of the wage-earning classes to compulsion, notwithstanding its grave interference with their homes, is largely owing to the gradual steps by which it has been introduced. That, accordingly, we cannot endorse any general condemnation of the manner in which "compulsion" has hitherto been administered.

That, while we do not desire to see either the standard or range of elementary education unduly restricted, a prolonged school life in the case of children preparing for many employments, including agriculture, is often incompatible with the practical instruction of the field or workshop, which must necessarily commence at an early age.

That, subject to the provision in section 9 of the Act of 1876, the minimum age for half-time exemption from school attendance should be 11, and the minimum age of full-time exemption 13.

That the clause (appearing on page 166 of the Report of the Committee of Council, 1885-6) which directed Her Majesty's inspectors to explain to school authorities that a child is bound to attend school full time whenever it is not *beneficially* and *necessarily* employed, and that a *bona fide* half-timer means a child who is legally at work when not at school, should be re-inserted in the annual instructions to inspectors.

That constant vigilance should be exercised by the department, both through their inspectors and by means of periodical returns, with regard to the action of local authorities, for the purpose of securing the attendance of children at school, in conformity with section 27 of the Act 1876, and that the Department should report to Parliament at stated intervals upon the whole subject.

That local committees should be more generally appointed under section 32 of the Act of 1876; and that school attendance committees should hold meetings from time to time in various parts of their district, accessible to the population.

That in all cases returns of absentees from each school should periodically be called for by the local authority.

That an annual return ought to be made by every local authority to the Education Department, giving the following statistics, viz., the number of attendance, officers employed, of meetings held, of parents interviewed, of summonses taken out, and of convictions obtained: also the cost of legal proceedings, and any other information relative to their duties which the Education Department may require. The character of the information to be given is shown by the returns published in the Report of the Education Department for 1878-79, p. xxxvi.

That the truant and day industrial schools established in several large cities under the Act of 1876, have been found efficacious as a means of enforcing compulsion on certain classes of children.

That it is the duty of the state to step in between children who are employed in theatres and those parents whose cupidity seeks to make a profit out of their employment. Certain provisions in the Act of 1876 bear upon these cases, but they do not stop all employment between the ages of 5 and 14, and they do not apply to children under five years of age. We are informed that the London School Board has been most anxious to deal with this evil, but has found that its legal powers are insufficient. The law on this subject is stated to be defective, and we recommend that it be strengthened; and that, from considerations of health as well as of morality and education, a remedy for a state of things which affects a large number of young children would be to bring theatrical employment under the Factory Acts.

That the suggestion to appoint a special magistrate for London to adjudicate on school attendance cases, who could hold sittings in the various districts of the metropolis at an hour and place when other police cases were not being heard, is, in principle, objectionable.

From the Special Report on Certain Points Connected with Elementary Education in Germany, Switzerland, and France, made in 1886, to the Education Department of England, by

Matthew Arnold, Esq., we extract the following as bearing upon the experience of those countries in the matter of free schools and compulsory education:

Free Education in Prussia.—Prussia has no general school law, although such a law has long been projected and has indeed been actually drafted. Elementary education is governed by a number of orders and regulations emanating from the local as well as from the central government, and by a number of laws directed to special points. But in the Prussian Constitution of 1850 there is this provision: *In der öffentlichen Volksschule wird der Unterricht unentgeltlich ertheilt.* "In the public popular school the instruction is given gratuitously." A further provision is: "The means 'for erecting, maintaining, and enlarging the public popular school are supplied by the communes, and in case of proved inability the deficiency 'is made good by the State.'" Another article of the Constitution, however, permits the *gemeinden*, or communes, to decide for themselves whether they will make their schools free or will charge school fees, only their decision must have the sanction of the *Regierung*, the provincial government.

The obligation on parents in Prussia to send their children to school from the age of five to that of fourteen was established by a general regulation in 1763, completed by further law and regulation in 1794 and 1825.

The provision in the Constitution of 1850, for making instruction in the popular schools gratuitous throughout Prussia, has hitherto remained inoperative. The popular school is to be supplied and maintained by the *gemeinde*, the municipal unit or commune, and the communes have not in general found themselves able to dispense with the resources furnished by school fees. Neither has the State found itself able to undertake the expense for gratuitous schooling, which the communes have been unable or unwilling to bear. Several communes in different parts of the country have, however, made their popular schools gratuitous. Some of them are small places. Dusseldorf is an instance of an important and wealthy place which has made its popular schools free. But the great instance is Berlin itself, the capital.

The municipality of Berlin paid for its communal schools in the year 1821 the sum of 3,000 marks (the mark answers to our shilling.) In the year 1879 it paid more than 4,000,000 marks for them, in 1885 more than 6,000,000. The schools were in 1837 taken over by a municipal school board (*schul-deputation*) from the administrators for the poor, the municipal officers who had hitherto had charge of them. At the end of 1869 the municipality resolved to make from the beginning of 1870 the instruction in its communal schools gratuitous for all scholars. In 1869, before this introduction of free schooling, the municipality had 49 communal schools with 31,752 scholars. In 1885 it had 146 communal schools with 132,889 scholars. This is a sufficient answer to the question whether school attendance has increased or diminished since the abolition of school fees, although it should be added that school attendance increases everywhere in Germany, in localities which retain school fees as well as in those which have abolished them.

The *gemeinde-schulen*, or communal schools, are the only body of schools in Berlin, or in other localities in Prussia, where school fees are not paid. But I will append a table of the schools in Berlin, showing what is the provision, not only of popular schools there, but also of public secondary or intermediate schools, the schools for the middle and upper classes. It will be seen from that table what a provision for the education of these classes is made by the municipality or the State. In higher schools, or universities, the same aid is continued, and this is the important thing for us in England to know and remember. We are misled if we are merely told that the schools for the lower classes in Berlin are free, while those for the middle and upper classes charge school fees. What would the schools for these classes be in Berlin, or, indeed, anywhere in Germany, if they had merely their school fees to depend upon? The schools are built and maintained, their teachers are paid, by the State or the municipality;

the school fees of the pupils, always very moderate according to our notions, are merely a contribution in aid of the expense of admirable schools provided really, like the elementary schools, by the public.

If it is asked what induced the municipality of Berlin or of other place to make popular education gratuitous, the first answer will be that the Prussian Constitution says that it shall be gratuitous, and that the word of the Constitution ought not to remain a dead letter. The municipalities, with sufficient means at their disposal, comply with the rule of the Constitution. The difficulty of collecting fees is said also to have been a strong motive with the Berlin municipality for making its schools free. Opinion in Prussia is greatly divided as to whether or no it is an advantage to make them free. I found the Minister of Education, Mr. Von Gossler, warmly in favor of making them so; it is commonly asserted that Prince Bismarck is of the same way of thinking. Free schooling he is said to consider a particularly safe and useful form of public aid to the working classes. The weight of opinion, however, among Government functionaries, teachers, and the general public I found to be on the other side. Why should not the parents who can afford it pay, say excellent and experienced teachers? It would be good for them, and they would pay quite willingly. At any rate, however, free schooling will not, I am told, be made universal in Prussia just yet; the communes cannot support the charge, and the State is not disposed to relieve them of it. If the thing is to be done, the State will have to do it, as the State is doing it in France. In view of this contingency it is well to remark that the proportion of the expense of schools which is supplied by the present low school fees is not very considerable. Its relinquishment would be a heavy loss for the communes to bear, but not, perhaps, for the State. It appears from some very careful statistics issued in 1882, that in the year 1878, of the cost of teaching in the popular schools (which is 70 per cent. of the total cost for them) the school fees, which are entirely applied to meet this charge, furnished little more than one-fifth part. On an average for the whole kingdom school fees meet 20.58 per cent. of the cost of teaching in the Prussian popular schools, endowments 12.02 per cent., the municipalities 55.26 per cent., and the State 12.14 per cent.

In towns where the popular schools are not generally free, provision has been made for giving free instruction to poor children in schools for themselves. This is done, for instance, at Cologne, where the municipality has town schools for children who can pay, and who are charged from 1s. to 1s. 6d. a month, according to the taxes paid by their parents; and free schools for the poor where everything is found—sometimes even clothes. But in Berlin, all the children of what we call the working class, and very many of the middle class, use the schools together, and are all alike exempt from school fees. I was informed that there is no specially poor quarter of Berlin like the East End of London; of course there is poverty, but the working classes live in the basement stories of the houses in all quarters of Berlin, and are numerous in the quarters inhabited by the court and rich people, as well as in others. Their children, therefore, are equally distributed through the schools, and, certainly, I found no groups of dirty and miserable looking children in the schools which I visited. All the children I saw were decently clad, and I was told that in all the Berlin schools I should find them so. But then they were no more dirty and ragged looking in a poor school for Catholics which I visited at Cologne than in the Berlin schools.

The only distinction made on the ground of poverty at Berlin is that school books and school material are supplied gratuitously where it is represented that the child cannot well afford to buy them, and the teacher finds this to be really the case. In general the children buy them.

It is evident that the question of permitting the payment of fees does not arise in cases where a municipality, as at Berlin and other places in Prussia, thinks proper to make its schools free. The State may give municipalities permission to levy fees in spite of a constitutional rule to the contrary; but there can be no room for such a permission when the municipality of its own accord establishes free schools.

Free Education in Saxony.—In Saxony free schooling, as a rule for the

whole school, is confined to certain foundation schools and schools maintained by charitable associations. In the ordinary popular schools children whose parents are paupers are paid for out of the local *armen-kasse* or poor-chest. But for the children in general who attend these schools the Saxon School Law of 1873 expressly imposes the payment of a school fee. The managers are to levy it, and to adapt it to the means and conditions of the parents. It therefore varies surprisingly in amount; in country schools from 3s. 1½d. a year (for in Germany the school fee is in general paid quarterly and reckoned by the year) to 10s. 6d.; in town schools from 3s. or 4s. a year to 3l. or 4l., and the variation commonly occurs, both in town and country, in the same school. In a list of ten towns for which Dr. Bornemann, the Director of Elementary Education in Saxony, has given me the rates of school fees, I find one town only, Langefeld, where there is a uniform fee in the popular school for all payers: the fee is 15s. a year. In the other nine, the scale varies from 6s. a year to 36s. in one case, from 6s. to 60s. in another, 6s. 9d. to 54s. in a third, 4s. to 32s. in a fourth, 20s. 10d. to 88s. 2½d. in a fifth, and so on. In the secondary or intermediate schools, which are also public schools, the *Gymnasien*, *Realschulen*, and Higher Schools for girls, the fee for schooling is 6l. a year.

From the Minister of Education, Dr. Von Gerber, downwards, I found opinion in Saxony against the abolition of school fees. The families, it was said, have the first and greatest interest in their children's education; they ought, therefore, to contribute towards paying for it. On the other hand, the *gemeinde*, the local community, also gets benefit by the children being educated; the *gemeinde*, therefore, ought to contribute too. Why is it harder, it was said again, upon an artisan with 50l. a year to have to pay 6s. a year for his child's schooling than upon an officer or a civil servant, with 200l. or 300l. a year, to have to pay 6l.?

Dr. Bornemann was of opinion that the general establishment of gratuitous popular instruction in Germany, though everywhere a good deal discussed at the present moment, will not actually come. If it does come, he said, it will lead to a great development of private schools. Poor children cannot learn so much as the better off, who have more means for preparation at home; the schools will drop to the level of the poorer children, and the better off will go to private elementary schools.

Free Education in Bavaria.—In Bavaria it is as in Prussia; certain municipalities have made their popular schools gratuitous, but payment of a school fee is the general rule. Bavaria has not in its Constitution any declaration respecting free schooling such as that which the Prussian Constitution contains, but it resembles Prussia in having no one general school law. Such a law was drafted and brought in 20 years ago, but did not obtain the assent of Parliament. Orders, regulations, and laws on special points govern popular education in Bavaria as in Prussia.

The general rule in Bavaria is to levy school fees, which are regarded as the natural provision for the teacher of the popular school. The public school fee has to be paid for every child of school age in the *gemeinde*, whether such child attends the public school or a private one. Only when the legal amount of the teacher's salary is completely supplied from endowment, or in other ways, is it allowable not to levy school fees.

The fee is fixed by law at a minimum of 8d. and a maximum of 1s. 4d. per quarter. Where, however, higher fees were levied before 1862, the date of the school dotation law, they may be levied still. The poor are paid for out of the poor-chest.

I found two important instances in which, the teachers' salaries being provided in the "other ways" allowed by the law, school rates are not levied. They were Munich and Nuremberg. I might add a third, Furth; but Furth may be regarded as a manufacturing extension of Nuremberg, from which it is only ten minutes distant by rail. I could hear of no other instances in Bavaria. In both Munich and Nuremberg a wealthy municipality had solved the difficulty of collecting fees by abolishing them altogether, and taking upon itself the cost for the schools and the teachers' salaries. In Nuremberg the abolition took place quite recently—not more than a year and a half ago. The results of the change cannot yet be perfectly judged, but where the change has been so recent, one has the

advantage of finding the previous state of things, and the reasons which led to its being altered, still full in people's recollection. The burgher-master of Nuremberg told me that in Nuremberg and Furth fees had been abandoned because of the difficulty of collecting them, the teachers, on whom the task of collection was thrown, objecting to perform it. He added, that with the shifting population the obtaining of the fees of children of new-comers from their own communes, in which, and not in Nuremberg, the fees for these children were chargeable, led to much intricate account-keeping and troublesome correspondence. The attendance had increased since the change, but it is increasing everywhere in Germany, whether school fees are charged or no. Before the change Nuremberg had three classes of popular schools,—schools in which all the scholars paid, schools in which a part of them paid, schools in which none paid. The schools in which all paid were, the burgher-master said, undeniably much the best; the schools in which a part paid were the next best; the free schools were the worst. In the present schools there is a much greater mixture of classes than in the schools before the change; the majority of the municipality, said the burgher-master, thought this mixture a good thing; he himself did not.

In the popular schools of Munich I found this mixture of class thoroughly established; much more so than in North Germany. In South Germany the obligation to attend daily school ends when the child is 13, a year sooner than in North Germany. I was told that in Munich the boys who do not attend the popular school up to the age of 13 are hardly more than 1 per cent.; afterwards the sons of wealthier parents go to secondary schools. The proportion of girls who attend, up to 13, other than the public popular schools, is a good deal larger still, many girls of the wealthier classes do attend them.

The result, then, as to Prussia, Saxony, and Bavaria, of my inquiry concerning school fees is this: Payment is the rule, free schooling is the exception. The popular school in these countries is a municipal thing; it is maintained, so far as it is not self-supporting, out of municipal resources and municipal taxes. A special school rate is not levied. If a Prussian or Bavarian municipality choose to abolish school fees and maintain the schools out of municipal resources and taxes, they can do so. In Prussia and Bavaria municipalities have in some cases done so. In Saxony they have to charge school fees in all public popular schools. In Hamburg, a free town, I found the payment of school fees required by law, and poor children are to be admitted free. This, I say, is the general rule in Germany—a school fee charged where the scholar can afford to pay it, remitted where he cannot. In those countries of Germany which I did not visit, the general rule, I am informed, is the same, although in those countries also there are to be found cases in which the municipalities have made instruction in the popular schools gratuitous.

Free Education in Switzerland.—In Switzerland the question of school fees is determined by the Federal Constitution, which bears date the 29th of May, 1874. Article 27 of this Constitution says: "Primary instruction is obligatory and in the public schools gratuitous."

The Swiss cantons are jealous of their independence in their local affairs, and a proposal to appoint a federal secretary of education was rejected by a large majority. But all the cantons have complied with the article of the Constitution, which declares primary instruction to be obligatory and in public schools gratuitous. Many people are in favor of also supplying books and school materials gratuitously; but this has not yet been done.

I visited, as specimens of the Swiss schools, the schools of Canton Zurich and Canton Lucerne; one of them a Protestant and industrial canton, the other a mountain canton and Catholic.

Each canton has its school law. In Lucerne the child must come to school at seven years old, and may come at six; his day-school course lasts till he is 14, and he has then, unless he goes to some higher school, to attend a *fortbildungs-schule*, or continuation school, for two years more, until he is 16. In Zurich the child must come to school at six years old; his day-school course lasts for six years, until he is 12. A proposal to

lengthen it was rejected in a general meeting of the canton by an immense majority. But he has three years of obligatory attendance at an *erganzungsschule*, or completion school, after he is 12, besides an hour a week at a singing school.

All these schools are free. In Canton Lucerne the higher schools are free also. In Canton Zurich the *secundar-schulen*, schools taking the pupil when he leaves the primary school, and giving him four years more of schooling, are free; but fees are charged in the cantonal *gymnasium*, *realschule*, and higher school for girls. These fees are of about the same amount in the boys' schools as the fees in the corresponding schools in Dresden; in the higher schools for girls they are lower, only 4l. An entrance fee of 2 francs and a small fee for lessons in book-keeping and foreign languages are also charged in the evening school, or trade school (*gewerbeschule*) as it is called, which takes young men from the age of 17 to that of 20; the other matters of instruction in this school are free.

But as in Germany, so in Canton Zurich, a whole system of intermediate schools exists by public establishment so much better and cheaper than could exist without it, that the class using them, though it may have to pay school fees, has yet its full and fair share of benefit from public expenditure on education, as well as the class for whom the popular schools are provided. Above the intermediate schools Zurich has, as establishments for higher education, the University of Zurich, a cantonal institution, and the Polytechnicum or Technical University, a federal one.

In other countries it is a political or governing class which establishes popular schools for the benefit of the lower classes. But in Switzerland we have the spectacle of a country where the community establishes the popular school for its own benefit. The same may be said, I suppose, of the institution of the popular school in the United States. Every one who knows Switzerland has seen the general equality of conditions which prevails there, and which determines the habits of life for the nation at large. A rich man at Zurich, the greatest employer of labor in Switzerland, told me that he sent his own children, both girls and boys, without hesitation to the popular school. They went afterwards to higher schools, of course. His wife told me that she thought the contact in the *gymnasium* or classical school more objectionable, that there was more difficulty in letting her son bring home with him his class-mates there than had been the case when he was in the popular school. When the popular school is thus freely used by all classes, and a convenience, if not a positive need for all, it is natural to make its establishment and maintenance a corporate charge. This is what the Swiss Constitution has done; and the cantons and communes have willingly followed the ruling of the Constitution, and made the popular school rest for support on municipal tax, not on school fee.

I was told, too, that it was found convenient in enforcing school obligation in a democratic country like Switzerland, where the action of public authority is less strong and stringent than in Germany, to be able to allege the gratuitousness of the schooling imposed. "You have nothing to pay, you can have no difficulty on that score, your child must attend"—is found, the school authorities told me, to be a good and effectual line of remonstrance with careless or uncomplying parents.

The article of the Swiss Constitution, which establishes the obligatoriness and gratuitousness of the popular school, goes on to say next: "The public schools shall be capable of being attended by adherents of all confessions without injury to their freedom of faith and conscience." Whoever has seen the divisions caused in a so-called logical nation like the French by this principle of the neutrality of the popular school in matter of religion might expect difficulty here. None whatever has arisen. The Swiss communities, applying the principle for themselves, and not leaving theorists and politicians to apply it for them, have done in the matter what they find suitable to their wants, and have in every popular school religious instruction in the religion of the majority, a Catholic instruction in Catholic cantons like Lucerne, a Protestant in Protestant cantons like Zurich. There is no unfair dealing, no proselytizing, no complaint. In the German countries generally I have been struck with

the same thing. In Germany the schools are confessional, or, as we say, denominational, that is (for the sect ramifications of Protestantism are not regarded) they are Evangelical, Catholic, or Jewish. When there are enough children of the confession of the minority, a separate school is established for them, but where there are not enough and they are taught with the children of the confession of the majority, there is, so far as I could learn, no unfair dealing and no complaint. In Saxony, where the Catholics are a small minority (in round numbers, 73,000 to nearly 3,000,000 of Protestants,) there are confessional schools for Catholics; but, of course, many scattered Catholic children are attending the Protestant schools. Of these children, the elder ones must stay away from the religious instruction; the younger ones may follow it if their parents please, and often do follow it. In the great town school of Lucerne I found about 400 Protestant children in class with 2,900 Catholics; the Catholic children receive their religious instruction at the school, the boys from the director of the institution, the girls from a priest; the Protestant children receive theirs out of school and out of school hours. But at the large country school of Krientz, near Lucerne, I found that even in the head classes the few Protestant children were receiving religious instruction along with their Catholic school-mates, the parents approving. The only case of religious difficulty which came to my notice was at Zurich, where some excellent people, evangelical Protestants, considering the Protestantism of the public training college and schools too broad and too lax, had founded, by private subscription, a more strictly evangelical college and school, which have been very successful.

What has been said of the general equality of conditions in Switzerland supplies an answer as to the question whether there are separate schools for dirty and neglected children. There is no such class of children; provision, however, is made for giving school books and materials free to children whose parents cannot provide them.

To the question whether the attendance at school has increased or diminished since the instruction was made gratuitous. I can give no answer so complete as a confrontation of the numbers at present actually attending the town school of Lucerne, just now mentioned, with the numbers attending it 15 years ago. They are now 3,300; they were then 1,500. I regard free schooling, however, rather as a part and sign of the movement of advance in popular education than as itself the cause of the movement.

Free Education in France.—The law of June 16th, 1881, when M. Jules Ferry was Minister of Public Instruction, abolished the payment of fees in the public primary schools, the infants' schools, and the normal schools of France.

Attendance at school was made obligatory by the law of March 28th in the year following, M. Jules Ferry being still minister. Article 4 of this law says:—"Primary instruction is obligatory for children of both sexes "between the ages of six years complete and thirteen years complete."

In France, as in Germany and Switzerland, intermediate and higher instruction are established and aided by the State, although for instruction at these stages fees are paid. But in the great towns, and above all in Paris, there is a whole system of schools and appliances connecting themselves with the primary school, and completing or continuing it, which are also made gratuitous. The municipality of Paris has thus not only its infants' schools and elementary schools, it has also its evening classes for adults and apprentices, its establishments of superior primary instruction, and its establishments of professional instruction, all of them for young people of both sexes, and all of them gratuitous.

If the creators of this great gratuitous system are asked what moved them to establish it, they will reply with entire frankness, *l'idée démocratique*, the democratic idea. In a democratic society, they will say, the distinction between the school child who can afford to pay fees for his schooling and who pays them, and the school child who cannot and does not, is wounding and improper. I am not quoting journalists and irresponsible declaimers, but ministers and responsible functionaries. Democracy in France is moreover at war with clericalism, and therefore, so

far as the wishes of the local population as to its school might give an opening for clerical influences, they are over-ridden by democracy. There is no religious instruction allowed in the primary schools; the buildings may not be used for such instruction even out of school hours; the chaplaincies attached to the normal schools were suppressed by decree in 1883, a bill is now being passed forbidding the communes, even if they desire it, to employ members of the teaching religious orders as schoolmasters or schoolmistresses in communal schools. So many feelings and interests are hurt by this mode of proceeding that free schooling in France and Paris is quite a different thing from free schooling in Switzerland, Berlin, or Munich. It provokes bitter complaint, and calls forth the establishment by private effort of rival schools. I have before me a speech made last year by M. Charles Robert, a very leading Protestant, whom I knew as chief assistant to M. Duruy, at the Ministry of Public Instruction in 1865, and who is now at the head of a great insurance company, in which he exhorts the French Protestants to maintain their schools zealously, because "moral education and the formation of the judgment and the character are too often neglected by the new official pedagogy." The Catholics prove the sincerity of their dislike of the new schools in the strongest manner by having raised for their schools in Paris more than 15,000,000 of francs in the last six years, and by educating at the present moment in their schools, supported through voluntary effort solely, one-third of the school children of Paris.

With all this discontent it would be difficult, if not impossible, to make the local communities throughout France defray the heavy and increasing charge of the popular schools, and the burden is being assumed by the Central Government, the State. The finance of French public instruction is by the confession of the functionaries themselves who administer it, extremely complicated. But the facts of the case will be made sufficiently intelligible by the following statement. The communes had formerly to maintain their primary schools out of their own resources, supplemented, if necessary, by an addition of four centimes to the four direct taxes for the commune, further supplemented, if still necessary, by an addition of four centimes to the four direct taxes for the department, supplemented, finally, if still necessary, by grant from the State. These eight centimes for the commune and department have now been made regular and fixed taxes paid to the State. Since 1882 the State has relieved of all further charge for their primary schools those communes which could not meet such charge out of their own resources. Only the five chief cities of France have undertaken so to meet it: Paris, Lyons, Marseilles, Bordeaux, Lille. In all the other communes of France the cost of primary instruction is met out of the public taxes by the State.

When, therefore, it is asked how the lower classes feel the weight of the expenditure on education, the answer must be: so far as they feel their share in the general taxation of the country to be increased by it. And this probably they do not feel at all.

It would be entirely contrary to "the democratic idea" to form separate schools for dirty and neglected children. As at Berlin, so at Paris, I was surprised to find how little difference there was in the appearance of school children in different quarters of the city. The wealthier classes use the public primary schools, I think, very little at present, but I saw no groups of children who could be called dirty and neglected. The Paris municipality provides, in connection with all its infants' schools and primary schools, a system of penny dinners, which makes undoubtedly the frequentation of these schools in decent attire an easier matter for the children of the poor. To send them decently dressed is more possible to them the less they have to spend on their food. And the rule of the municipality is, that to children really poor, the penny dinner shall be given free. All school children have also their school books and materials provided for them by the municipality free of cost.

The increase both in the outlay on primary schools and in the number of children attending them, has been enormous since I saw the schools in 1859. I see that in 1856, the latest year for which I then could obtain full returns, of 42,297,332 francs raised for primary instruction there were fur-

nished, in round numbers, 9½ millions by school fees, 22 millions by the communes, 5½ millions by the departments, 5½ millions by the State. At present nothing is received from school fees, and M. Buisson informs me that the State bears nine-tenths of the annual expense of primary instruction, and spends over 80 millions of francs on it. As to attendance, the municipality of Paris had, in 1871, 94 infants' schools, with places for 16,111 children; in 1884 it had 128 infants' schools, with places for 20,215 children. Of boys' and girls' schools it had, in 1871, 243, with places for 73,579 scholars; in 1884 it had 361, with places for 121,798 scholars.

4. *Attendance.*—I was finally directed to ascertain in the countries visited by me, "whether any law exists to enforce attendance; the nature of this law; whether it requires attendance every time the school is open; how many times the school must be open, and especially whether it is necessary for a child to pass a particular standard of examination before being allowed to go to work, and whether the right to labor is simply a question of age; also, what penalties are prescribed for breaking the law, and if it is rigorously enforced; and lastly, what excuses for non-attendance may be pleaded."

Some of these questions have been already answered in what has preceded; but to make it clear of what nature is the law in foreign countries as to school attendance, and how what is there done in this matter differs from what is done amongst ourselves, it may be convenient to quote the exact words of the Saxon law on the subject, and to mention what has been ruled as to questions arising under them.

Section IV., paragraph 1, of the Saxon school law of 1873 is as follows:

"Every child has to attend, for eight years uninterruptedly, the common popular school in the school district where it resides; as a rule, from the completion of the sixth year of its age to the completion of its fourteenth."

Then come provisions with respect to children who may be sent elsewhere than to the common popular school, the provisions having for their object to secure that such children shall receive at least as good an instruction as that of the popular school, and for as long a time.

It has been ruled that "at the close of each school year, shortly before Easter, an examination of the whole school shall take place under the direction and presidency of the local inspector; the examination, however, need not extend to all the matters of instruction in each class." Each child has then a report furnished to him on his conduct and school work for the year; these reports, or certificates, however, "may never stand in lieu of the *Entlassungs-zeugnisse*, or certificate of discharge, to be obtained by him at the end of his whole school course."

Paragraph 6 of Section IV., says: "Only in specially urgent cases, and, as a rule, not until the child's fourteenth year is completed, can, after a seven years' attendance at school, discharge from the common popular school be granted by the district inspector, on the recommendation of the teacher and the local inspector." It has been ruled that no child can receive this earlier discharge whose performance in the principal matters of instruction has not gained at least the mark of *genugend*, "satisfactory," and that the parent's wanting the child to go to work is not one of the *urgent cases* contemplated.

In paragraph 7 it is added: "Children who by the end of their eighth school year do not attain due proficiency in the principal matters of instruction, that is to say, in religion, the German language, reading, writing, and arithmetic, have to attend school a year longer."

The holidays for the popular schools in Saxony are fixed by law, and amount to 44 days in the year. In general, the school meets for a minimum of three hours in the morning and of two hours in the afternoon. "Parents and guardians are bound," says Section V. of the law, "to keep children of school age to a regular attendance in school hours. As a general rule, only illness of the child, or serious illness in the child's family, is ground of excuse for its missing school."

Absences, with their causes, are entered daily by the teacher in the school registers. At the end of every month he hands a list of them to the managers, whose chairman has to bring, within eight days after the end

of the month, all punishable absences to the notice of the magistrate, if he has not previously brought the parents to their duty by an admonition, or had the child fetched to school by the school beadle, to whom a small fee is due from the parent for his trouble. If, however, the matter goes before the magistrate, this functionary inflicts a fine, which may go as high as 30s., and if the fine is not paid the penalty is changed to one of imprisonment.

This is the Saxon law, and, without going into details for each country, it will sufficiently serve to show how in general the law as to attending school, and as to the penalties for missing school, stands in each.

A very competent and well-informed Englishman, settled at Weimar, has supplied the Education Department with statistics as to entrances, attendances, absences, and fines in popular schools in Germany, which give all the information of this kind which is necessary. He mentions, what the authorities told me also, that returns are not at present made in Germany, as with us, comparing the number of attendances with the number of children on the school books. Local testimony in single cases, therefore, as to regularity or irregularity of attendance, becomes of the greater importance.

Wherever I inquired, in Germany and Switzerland, inspectors and teachers assured me that they had not to complain of the parents; that the children were sent to school regularly. By looking at the registers I was able to assure myself how few of the absences were entered as contumacious. A contumacious absence, I was told, was never passed over; and on one occasion I was myself present when the school officer was dispatched to fetch an offender, a girl, and fetched her. But in general, the children have the habit of coming to school as a matter of course, and the parents have the habit of acquiescing, as a matter of course, in their children's going. This is the great matter. I was told that the magistrates, when cases came before them, were apt to be lenient; and, indeed, a local land-owner and magistrate in a Silesian village, when I asked him, pointing to a passing villager and his boy, "But if that man was summoned and declared to you that he kept his boy from school because he "was too poor to do without his labor, what would you say?" answered me in English: "*I would remain silent.*" But in that very village the master of the school told me that not a case for summoning a child had arisen for the last 10 years. Even more palpable was the evidence of regular attendance in the little Zurich school already mentioned by me. I arrived there wholly unannounced and unexpected, and asked to see the registers. I found 48 children entered, I counted 46 present in school before me, and learnt that the two absentees were kept away because of infectious fever in their family. In great cities there is less regularity of attendance than in the country; the Berlin municipality in 1884, with 134,411 children in school, inflicted penalties on 1,181 heads of families.

In France the attendance is a good deal less regular than in Germany; in the country, I am told, especially. The established habit of school-going has not yet had time to be formed there. But the law itself, in France, gives a surprising license for periodical absences from school. At the age of 11 the child can leave school if he has obtained the certificate of being up to the mark in the work of a primary school; but, moreover, before that age, the law of 1882 allows managers to give three months' leave a year, besides the holidays, to a child living at home, and to permit a child employed away from home to come to school for half the day only. In Germany the school obligation is much more serious. But even in Germany and German Switzerland the school time is not universally what, from reading the provisions which I have quoted from the Saxon law, might be supposed. In the first place, the holidays are in general a good deal more than the forty-four days given by the Saxon law. In the Lucerne school law the school year—the annual term for which the child must be at school—is fixed at forty weeks. This makes twelve weeks of holidays instead of six weeks and two days. In general, in Germany and Switzerland the holidays occupy, I think, at least eight or ten weeks of the year. And it is wholesome and right that this should be so; few people would be disposed to find fault with it.

But many people might look with less favor on another abridgment of school time which happens even in the best educated German countries. In Saxony the law prescribes that the number of scholars in a class shall not exceed sixty, and that the number of scholars to one teacher shall not exceed 120. In schools with from 60 to 120 children, therefore, if the commune is not rich enough to do more in the way of providing teachers than the law actually requires, two classes are formed, and a reduction of school time takes place for each, in order to allow the one master to conduct them separately.

The same thing in Prussia. There the law allows seventy children to a class, eighty children to a teacher; but where there are more than eighty children to a teacher the commune may have recourse to the half-day system, by which one division of children has school in the morning, the other in the afternoon. Not till there are 120 children do the Government regulations prescribe a second teacher; and the school is then to be organized in three classes, with twelve hours a week for the lowest class, twenty-four for the middle class, and twenty-eight for the highest. This regulation dates from 1872, and was meant to insure a full school time for the elder children at any rate. But the authorities were to respect the wishes of the localities in carrying the regulation into effect, as in general local habits and wishes are far more respected by the Prussian Government than we in England suppose. And it was found that the rural population greatly preferred the *half-day school*, as it is called, for all the children, because they had thus the elder children at their disposal for half the day.

In a great country like Prussia, with more than twenty-seven millions of inhabitants, a system like that of the half-day school affects a very large number of schools and children. In 1882, the last year for which I have a return, there were 2,989 half-day schools in Prussia—schools in which all the children had but half a day's schooling—and 1,847 schools with two teachers and three classes—schools in which a large part of the children had only half a day's schooling.

The Silesian school which I have mentioned was a half-day school. I passed a whole school day in it, and saw both divisions at work. The division of elder children, eighty-six in number, had three hours in the morning; the division of younger children, sixty-two in number, had two hours in the afternoon. The local school inspector, the Lutheran minister of the parish, had represented, as was his duty, to the inspector of the *kreis*, or district in which the school is situated, who was also a Lutheran minister, and lived in a parish about four miles off, that the school ought to have a second teacher. The district inspector had summoned the commune to provide a second teacher; the commune had replied that its means were insufficient, and that things did very well as they were. The district inspector had forwarded this answer to the authority of the province, the *Provinzial Schul Collegium*, representing the Minister, and when I was in the place the answer had just arrived from the provincial authority to say that the commune's objections could not be admitted, and that a second master there must be.

Besides calling attention to the half-day system, both entire and partial, I ought also to say that there are a number of schools in Prussia with what the Government report calls *anomale frequenz-verhältnisse*, that is to say, in which the rules as to the number of children to a teacher and the distance of school from the child's home are not observed. The rule as to the number of children to one teacher has been given; the rule as to distance of school from the child's home is that it ought not to exceed three and three-fourths kilometers. But tables are given to show that there are many whole *kreise* or districts, and even two whole provincial government divisions (*Regierungs-Bezirke*) in which the proportion of 100 children to a teacher is on an average exceeded throughout the schools; and further lists are given showing in all the provinces single cases where there is but one teacher to 200 children and more, and where there are populations distant five and six kilometers and more from the school. To such an extent do these breaches of the rule prevail, that while in Prussia there are 2,275,616 children in schools which the Government

report calls normally constituted—in which, that is, the rules as to staff of teachers and distance are observed—there are in schools abnormally constituted—in which, that is, these rules are not observed—no less than 2,064,113 children.

No doubt the inequalities in school provision between town and country and between district and district, the insufficiency of the resource of school fees, the difficulties of communes, are temptations to a Government to sweep away school fees and municipal responsibility for schools, and to take the charge upon itself, upon the state, as is being done in France. Yet, the best and most observant judges are still of opinion that the payment of school fees is wholesome, and that the popular school is rightly a municipal institution; that school fees should be retained therefore, and that the state should come in with grants in aid to the commune, and should not supersede it.

What chiefly struck me, however, in the German and Swiss schools, which I watched working under what we should call unfavorable conditions—the half-day school in Silesia, with one master, over 60 years of age, to 150 scholars; the school at Krienzen, a large and busy *gemeinde* near Lucerne, with sixty-three scholars in the seventh or head class, eighty in the sixth, sixty-eight in the fifth, eighty in the fourth, ninety-six in the third, ninety-seven in the second, and the first or lowest class not coming at all in winter; the school on the Zurich-berg, with forty-eight children, organized in six classes under a single master—was not their deficiencies (except in point of ventilation,) but much rather the good instruction of the children and their good behaviour.

I was sent to make inquiries, and I have tried to give, as succinctly as I could, the result of them. That I should add recommendations was not in my commission, but I may be allowed, perhaps, to put forward one or two remarks which are very present to my mind in consequence of what I have seen.

In the first place, the retention of school fees is not a very important matter. Simply from the point of view of a friend of education there are advantages in their retention, and advantages in their abolition, and the balance of advantage is decidedly, in my opinion, on the side of retention. But we must remember, on the other hand, that there are some questions which it is peculiarly undesirable to make matters of continued public discussion; questions peculiarly lending themselves to the mischievous declamation and arts of demagogues, and that this question of gratuitous popular schooling is one of them. How often, if the question becomes a political one, will declaimers be repeating that the popular school ought to be made free because the wealthier classes have robbed the poor of endowments intended to educate them? The assertion is not true, indeed; what we call “popular education” is a quite modern conception; what the pious founder in general designed formerly was to catch all promising subjects and to make priests of them. But how surely will popular audiences believe that the popular school has been robbed, and how bad for them to believe it, how will the confusion of our time be yet further thickened by their believing it! I am inclined to think, therefore, that sooner than let free popular schooling become a burning political question in a country like ours, a wise statesman would do well to adopt and organize it. Only it will be impossible to organize it with the state limiting its concern, as it does now, to the popular school only; and this can be so palpably shown to be a matter of common justice that one need not despair of bringing even the popular judgment to recognize it.

Secondly, there is a danger, perhaps, lest when we have got very elaborate and complete returns—and these returns show a very satisfactory proportion between scholars in daily attendance and scholars on the books, a very satisfactory limit to the number of scholars allowed to each teacher, and a very satisfactory per centage of passes in the established matters of instruction—we should think that therefore we must be doing well with our popular schools, and that we have no cause to envy the popular schools abroad, and nothing to learn from them. On the contrary, the things on which we pride ourselves are mere machinery; and what we should do well to lay to heart is that foreign schools with larger classes,

longer holidays, and a school-day often cut in two, as we have seen, nevertheless, on the whole, give, from the better training of their teachers and the better planning of their school course, a superior popular instruction to ours.

And this brings me thirdly and finally to the point raised at the end of my first remark, and urged by me so often and so vainly ever since my mission abroad in 1859: our need to *organize our secondary instruction*. This is desirable in the interest of our secondary and higher instruction, of course, principally; but it is desirable, I may say it is indispensable, in the interest of our popular instruction also. Every one now admits that popular instruction is a matter for public institution and supervision; but so long as public institution and supervision stop there, and no contact and co-relation are established between our popular instruction and the instruction above it, so long the condition of our popular instruction itself will and must be unsatisfactory. I remain, Sir,

Your obedient servant,

(Signed) MATTHEW ARNOLD.

The Secretary, Education Department, Whitehall.

TABLE 21.—PUBLIC SCHOOLS.

Table showing the number of pupils of each age enumerated, the total days' attendance, and the average days' attendance, by counties, for 52 counties.

ST. LOUIS COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	2	122.00	61.0
5 years.....	69	4,907.00	71.1
6 ".....	90	8,568.50	95.2
7 ".....	92	10,659.50	115.9
8 ".....	115	12,929.50	112.4
9 ".....	92	10,221.50	111.1
10 ".....	85	9,748.00	114.7
11 ".....	85	7,654.00	90.0
12 ".....	92	9,320.50	101.3
13 ".....	68	5,924.25	87.2
14 ".....	44	4,278.75	97.0
15 ".....	25	1,461.00	58.4
16 ".....	16	1,452.75	90.8
17 ".....	4	392.00	98.0
18 ".....	5	251.50	50.3
19 ".....	2	89.00	44.5
20 ".....	3	294.00	98.0
21 ".....	1	20.00	20.0
Over 21 years.....	2	92.50	46.2
	892	88,386.25	99.09

WABASHA COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	7	282.00	40.3
5 years.....	143	10,109.75	70.7
6 ".....	456	28,806.25	63.2
7 ".....	331	34,027.75	102.8
8 ".....	395	44,874.75	113.6
9 ".....	370	41,276.00	112.0
10 ".....	387	46,258.50	119.5
11 ".....	351	38,970.00	111.0
12 ".....	392	40,881.25	104.3
13 ".....	317	31,432.50	99.2
14 ".....	296	25,969.00	87.7
15 ".....	226	23,038.25	101.9
16 ".....	182	15,284.75	83.1
17 ".....	126	10,432.50	82.8
18 ".....	87	5,793.25	66.6
19 ".....	42	2,342.00	55.8
20 ".....	13	678.00	52.2
21 ".....	11	131.50	11.1
Over 21 years.....	27	69.00	2.6
	4,159	400,657.00	96.32

RAMSEY COUNTY.

Under 5 years.....	6	112.50	18.7
5 years.....	33	1,810.00	54.9
6 ".....	118	9,009.50	76.4
7 ".....	124	11,924.00	96.2
8 ".....	125	13,359.50	106.9
9 ".....	120	12,930.00	107.7
10 ".....	134	14,691.50	109.6
11 ".....	102	12,214.00	119.7
12 ".....	126	11,965.00	95.0
13 ".....	85	8,880.50	104.5
14 ".....	69	5,745.50	83.3
15 ".....	52	4,366.50	84.0
16 ".....	31	2,349.50	75.8
17 ".....	18	918.00	51.0
18 ".....	8	690.00	86.2
19 ".....	3	67.00	22.3
20 ".....	4	128.50	32.1
21 ".....	2	80.00	40.0
Over 21 years.....	2	56.00	28.0
	1,162	111,297.50	95.78

WASHINGTON COUNTY.

Ages.	No. Pupils. Enumerated	Total Days Attendance.	Av. Days Attendance
Under 5 years.....	6	104.00	17.3
5 years.....	103	5,900.00	57.3
6 ".....	212	15,442.00	72.7
7 ".....	255	24,305.00	95.3
8 ".....	272	27,686.00	101.8
9 ".....	276	29,977.00	108.6
10 ".....	270	24,823.00	91.9
11 ".....	246	22,689.00	92.2
12 ".....	277	26,167.00	94.5
13 ".....	240	20,418.00	85.1
14 ".....	159	13,206.00	83.1
15 ".....	125	7,774.00	62.2
16 ".....	67	4,676.00	69.8
17 ".....	48	2,195.00	45.7
18 ".....	23	1,081.00	47.0
19 ".....	13	696.00	53.5
20 ".....	2	69.00	34.5
21 ".....	2	140.00	70.0
Over 21 years.....	2	155.00	77.5
	<hr/> 2,598	<hr/> 227,503.00	<hr/> 87.57

NICOLLET COUNTY.

Under 5 years.....	5	130.00	26.0
5 years.....	83	4,626.00	55.7
6 ".....	209	16,540.00	79.1
7 ".....	277	26,924.00	97.2
8 ".....	214	21,197.00	99.1
9 ".....	231	22,795.00	98.7
10 ".....	254	24,251.00	95.5
11 ".....	204	19,818.00	97.1
12 ".....	214	19,381.00	90.6
13 ".....	198	16,622.00	83.9
14 ".....	168	14,362.00	85.5
15 ".....	122	8,188.00	67.1
16 ".....	93	6,458.00	69.4
17 ".....	52	3,634.00	69.9
18 ".....	41	2,798.00	68.2
19 ".....	19	1,302.00	68.5
20 ".....	14	822.00	58.7
21 ".....	6	200.00	33.3
Over 21 years.....	9	533.00	59.2
	<hr/> 2,413	<hr/> 210,581.00	<hr/> 87.27

WADENA COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	2	119.50	59.7
5 years.....	96	6,214.50	64.7
6 ".....	157	11,443.00	72.9
7 ".....	151	13,487.00	89.3
8 ".....	206	19,468.25	94.5
9 ".....	218	21,449.00	98.4
10 ".....	185	17,614.25	95.2
11 ".....	149	13,546.00	90.9
12 ".....	128	12,257.25	95.8
13 ".....	156	13,829.25	88.7
14 ".....	133	11,149.75	83.8
15 ".....	127	10,465.00	82.4
16 ".....	55	4,199.75	76.4
17 ".....	35	2,392.00	68.3
18 ".....	20	954.75	47.7
19 ".....	15	1,371.50	91.4
20 ".....	25	2,025.00	81.0
21 ".....	1	6.00	6.0
Over 21 years.....	9	494.00	54.1
	<hr/> 1,868	<hr/> 162,485.75	<hr/> 86.98

WINONA COUNTY.

Under 5 years.....	19	533.50	28.1
5 years.....	185	10,431.75	56.4
6 ".....	343	25,331.50	73.9
7 ".....	382	36,311.00	95.1
8 ".....	409	41,196.75	100.7
9 ".....	388	40,038.75	103.2
10 ".....	403	39,890.00	99.0
11 ".....	380	36,336.25	95.6
12 ".....	404	38,174.00	94.5
13 ".....	346	29,652.50	85.7
14 ".....	316	25,087.75	79.4
15 ".....	238	17,232.75	72.4
16 ".....	189	12,708.00	67.3
17 ".....	117	7,197.25	61.5
18 ".....	64	3,887.75	60.7
19 ".....	34	1,725.75	50.8
20 ".....	17	1,083.50	63.7
21 ".....	2	108.00	54.0
Over 21 years.....	1	113.50	113.5
	<hr/> 4,237	<hr/> 367,040.25	<hr/> 86.63

FILLMORE COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	34	912.00	26.8
5 years.....	325	17,098.75	52.6
6 ".....	504	36,157.50	71.7
7 ".....	580	54,628.25	94.2
8 ".....	627	61,972.50	98.8
9 ".....	707	70,598.00	99.9
10 ".....	675	66,884.00	99.1
11 ".....	589	59,229.75	100.6
12 ".....	690	56,493.50	81.9
13 ".....	577	51,846.75	89.9
14 ".....	560	42,075.50	75.1
15 ".....	453	32,773.75	72.3
16 ".....	335	21,257.25	63.4
17 ".....	260	17,138.25	65.9
18 ".....	182	10,555.25	58.0
19 ".....	95	5,624.25	59.2
20 ".....	52	2,794.50	53.8
21 ".....	24	1,858.25	77.4
Over 21 years.....	18	827.00	45.9
	7,287	610,725.00	83.81

RICE COUNTY.

Under 5 years.....	14	384.00	27.4
5 years.....	237	12,706.00	53.6
6 ".....	417	28,823.00	69.1
7 ".....	457	36,585.00	80.1
8 ".....	530	48,174.00	90.9
9 ".....	513	50,031.00	97.5
10 ".....	568	53,670.00	94.5
11 ".....	508	44,961.00	88.5
12 ".....	487	41,128.00	84.5
13 ".....	450	37,003.00	82.2
14 ".....	356	30,297.00	85.1
15 ".....	335	26,244.00	78.3
16 ".....	221	17,483.00	79.1
17 ".....	145	6,794.00	46.9
18 ".....	95	8,628.00	90.8
19 ".....	37	1,332.00	36.0
20 ".....	37	2,331.00	63.0
21 ".....	4	191.00	47.7
Over 21 years.....	1	13.00	13.0
	5,412	446,778.00	82.52

NOBLES COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	5	53.50	10.7
5 years.....	81	4,558.50	56.3
6 ".....	154	10,710.00	69.5
7 ".....	185	16,452.00	88.9
8 ".....	193	16,751.50	86.8
9 ".....	185	17,373.00	93.9
10 ".....	200	18,232.00	91.2
11 ".....	158	14,071.50	89.1
12 ".....	177	14,117.00	79.8
13 ".....	160	14,126.50	88.3
14 ".....	158	13,021.50	82.4
15 ".....	135	10,583.50	78.4
16 ".....	104	7,429.00	71.4
17 ".....	74	5,330.00	72.0
18 ".....	41	2,455.50	59.9
19 ".....	33	1,856.00	56.2
20 ".....	16	1,010.00	63.1
21 ".....	5	148.00	29.6
Over 21 years.....	11	463.00	42.1
	<hr/> 2,075	<hr/> 168,742.00	<hr/> 81.31

SHERBURNE COUNTY.

Under 5 years.....	10	170.00	17.0
5 years.....	70	3,523.00	50.3
6 ".....	131	9,195.00	70.2
7 ".....	123	9,387.00	76.3
8 ".....	138	11,768.00	85.3
9 ".....	144	12,876.00	89.4
10 ".....	140	12,254.00	87.5
11 ".....	141	12,765.00	90.5
12 ".....	127	10,044.00	79.1
13 ".....	118	9,809.00	83.1
14 ".....	94	6,698.00	71.3
15 ".....	101	6,944.00	68.8
16 ".....	55	3,054.00	55.5
17 ".....	35	3,110.00	88.9
18 ".....	21	1,467.00	69.8
19 ".....	13	716.00	55.1
20 ".....	3	47.00	15.1
21 ".....	1	19.00	19.0
Over 21 years.....	1	84.00	84.0
	<hr/> 1,466	<hr/> 113,930	<hr/> 77.71

MILLE LACS COUNTY.

Ages.	No. Pupils Enumerated	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	.....	.....	.....
5 years.....	22	1,363.50	62.0
6 ".....	49	2,907.25	59.3
7 ".....	40	3,513.75	87.8
8 ".....	59	4,419.00	74.9
9 ".....	32	2,538.00	79.3
10 ".....	64	4,677.75	73.1
11 ".....	34	2,904.50	85.4
12 ".....	58	4,068.75	70.1
13 ".....	38	3,408.25	89.7
14 ".....	49	3,290.75	67.2
15 ".....	43	3,824.00	88.9
16 ".....	20	1,581.25	79.1
17 ".....	19	1,409.25	74.2
18 ".....	16	1,784.00	111.5
19 ".....	6	403.50	67.2
20 ".....	9	650.50	72.3
21 ".....	1	38.50	38.5
Over 21 years.....	1	57.00	57.0
	560	42,839.50	76.50

FARIBAULT COUNTY.

Under 5 years.....	10	341.25	34.1
5 years.....	169	7,178.00	42.5
6 ".....	295	19,045.75	64.6
7 ".....	343	27,883.00	81.3
8 ".....	362	32,029.75	88.5
9 ".....	333	30,047.25	90.2
10 ".....	354	31,424.00	88.8
11 ".....	342	30,504.00	89.2
12 ".....	325	26,039.00	80.1
13 ".....	282	21,984.25	78.0
14 ".....	253	18,722.75	74.0
15 ".....	232	16,222.25	69.9
16 ".....	199	13,022.00	65.4
17 ".....	146	9,219.50	63.1
18 ".....	86	4,483.25	52.1
19 ".....	57	3,022.25	53.0
20 ".....	26	1,111.25	42.7
21 ".....	17	1,010.75	59.5
Over 21 years.....	21	960.75	45.7
	3,852	294,251.00	76.39

PIPESTONE COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	12	392.00	32.7
5 years.....	87	5,328.00	61.2
6 ".....	131	9,121.50	69.6
7 ".....	141	10,495.25	74.4
8 ".....	125	10,959.00	87.7
9 ".....	123	11,139.25	90.6
10 ".....	122	9,823.25	80.5
11 ".....	120	10,144.00	84.5
12 ".....	113	9,940.25	88.0
13 ".....	110	8,498.75	77.3
14 ".....	109	8,133.25	74.6
15 ".....	81	5,024.25	62.0
16 ".....	58	3,331.00	57.4
17 ".....	42	1,956.25	46.6
18 ".....	21	899.50	42.8
19 ".....	22	1,088.75	49.5
20 ".....	13	432.50	33.3
21 ".....	2	11.00	5.0
Over 21 years.....	2	45.00	22.1
	<hr/> 1,434	<hr/> 106,762 75	<hr/> 74.45

BLUE EARTH COUNTY.

Under 5 years.....	32	960.00	30.0
5 years.....	258	10,849.50	42.1
6 ".....	380	25,817.50	67.9
7 ".....	427	32,947.25	77.2
8 ".....	468	39,668.25	85.1
9 ".....	482	40,725.25	84.5
10 ".....	446	37,671.50	84.5
11 ".....	395	34,659.75	87.7
12 ".....	392	30,826.50	78.6
13 ".....	374	29,228.00	75.5
14 ".....	342	25,183.25	73.6
15 ".....	248	15,232.75	61.4
16 ".....	231	14,820.50	64.1
17 ".....	124	7,114.50	57.4
18 ".....	83	4,573.50	55.1
19 ".....	56	2,988.00	53.4
20 ".....	27	1,129.00	41.7
21 ".....	17	997.00	58.6
Over 21 years.....	4	160.00	40.0
	<hr/> 4,784	<hr/> 355,552.00	<hr/> 74.32

HENNEPIN COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	21	717.50	34.2
5 years.....	216	11,324.00	52.4
6 ".....	552	36,734.00	66.5
7 ".....	589	45,947.00	78.0
8 ".....	644	51,737.75	80.3
9 ".....	687	58,165.00	84.7
10 ".....	691	56,471.25	81.7
11 ".....	648	54,374.00	83.9
12 ".....	629	49,370.50	78.5
13 ".....	578	42,543.50	73.6
14 ".....	536	38,145.50	71.2
15 ".....	407	24,236.50	59.5
16 ".....	247	14,128.00	57.2
17 ".....	173	10,726.50	62.0
18 ".....	89	4,636.25	52.1
19 ".....	48	2,731.00	56.9
20 ".....	31	1,643.50	53.0
21 ".....	9	416.00	46.2
Over 21 years.....	21	544.50	25.9
	<hr/> 6,816	<hr/> 504,592.25	<hr/> 74.03

ANOKA COUNTY.

Under 5 years.....	3	112.00	37.3
5 years.....	63	3,146.00	49.9
6 ".....	88	5,781.50	65.7
7 ".....	108	8,993.50	83.3
8 ".....	126	10,478.00	83.2
9 ".....	138	12,289.00	89.0
10 ".....	125	10,364.25	82.9
11 ".....	106	9,210.75	86.9
12 ".....	126	9,122.75	72.4
13 ".....	91	7,285.00	80.1
14 ".....	90	5,792.50	64.4
15 ".....	87	5,283.00	60.7
16 ".....	48	2,769.50	57.7
17 ".....	38	2,151.50	56.6
18 ".....	29	1,203.00	41.5
19 ".....	7	345.00	49.3
20 ".....	7	415.00	59.3
21 ".....	.....	.....	.....
Over 21 years.....	2	28.00	14.0
	<hr/> 1,282	<hr/> 94,770.25	<hr/> 73.93

BROWN COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years	16	241.00	15.1
5 years	115	5,633.00	49.0
6 "	241	19,775.00	82.1
7 "	303	24,428.00	80.6
8 "	329	30,036.00	91.3
9 "	303	25,653.00	84.7
10 "	304	25,942.00	85.3
11 "	288	23,688.00	82.3
12 "	295	21,438.00	72.7
13 "	275	19,202.00	69.8
14 "	223	12,964.00	58.1
15 "	145	8,984.00	62.0
16 "	119	6,116.00	51.4
17 "	67	2,707.00	40.4
18 "	41	1,697.00	41.4
19 "	16	463.00	28.9
20 "	33	434.00	13.2
21 "	1	56.00	56.0
Over 21 years	3	64.00	21.3
	3,117	229,521	73.64

DOUGLAS COUNTY.

Under 5 years	8	145.50	18.2
5 years	84	3,078.00	36.6
6 "	234	15,804.50	67.5
7 "	327	24,400.50	74.6
8 "	343	27,331.75	79.7
9 "	349	27,698.00	79.4
10 "	369	32,643.50	88.5
11 "	342	27,160.25	79.4
12 "	349	26,948.00	77.2
13 "	312	21,273.50	68.2
14 "	259	17,254.50	66.6
15 "	160	10,481.50	65.5
16 "	144	8,750.00	60.8
17 "	89	6,025.75	67.7
18 "	58	3,675.25	63.4
19 "	41	2,350.75	57.3
20 "	27	1,823.50	67.5
21 "	13	882.00	67.8
Over 21 years	20	938.75	46.9
	3,528	258,665.50	73.32

MCLEOD COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	15	320.50	21.3
5 years.....	154	7,287.25	47.3
6 ".....	330	20,538.50	62.2
7 ".....	377	27,889.00	74.0
8 ".....	418	36,100.00	86.4
9 ".....	396	34,902.00	88.1
10 ".....	430	36,260.50	84.3
11 ".....	389	31,985.75	82.2
12 ".....	390	29,116.00	74.7
13 ".....	340	23,516.00	69.2
14 ".....	293	19,162.75	65.4
15 ".....	243	14,974.50	61.6
16 ".....	157	9,296.50	59.2
17 ".....	93	6,796.75	73.1
18 ".....	76	4,692.75	61.7
19 ".....	55	2,798.75	50.9
20 ".....	32	1,735.75	54.2
21 ".....	10	465.50	46.5
Over 21 years.....	8	346.00	43.0
	4,206	308,182.75	73.27

REDWOOD COUNTY.

Under 5 years.....	5	271.50	54.3
5 years.....	137	6,604.50	48.2
6 ".....	208	12,741.25	61.3
7 ".....	242	19,322.75	79.8
8 ".....	196	15,144.50	77.3
9 ".....	201	18,639.75	92.7
10 ".....	196	15,558.50	79.9
11 ".....	198	15,344.75	77.5
12 ".....	183	14,797.50	80.8
13 ".....	155	11,311.50	73.0
14 ".....	169	12,409.25	73.4
15 ".....	113	7,484.75	66.2
16 ".....	86	5,700.75	66.3
17 ".....	64	3,632.25	56.8
18 ".....	38	2,170.50	57.1
19 ".....	19	922.75	48.6
20 ".....	12	642.50	53.5
21 ".....	2	178.00	89.0
Over 21 years.....	9	222.00	24.1
	2,233	163,099.25	73.04

WASECA COUNTY.

Ages.	No. Pupils Enumerated.	Total Days. Attendance.	Av. Days Attendance.
Under 5 years	24	839.00	35.0
5 years	156	7,325.00	47.0
6 "	302	22,316.00	73.9
7 "	253	20,850.00	82.4
8 "	318	27,104.00	85.2
9 "	269	24,055.00	89.4
10 "	317	28,024.00	88.4
11 "	266	13,320.00	50.1
12 "	303	25,050.00	82.7
13 "	224	17,049.00	76.1
14 "	208	18,619.00	65.5
15 "	170	11,244.00	66.1
16 "	111	6,503.00	58.6
17 "	82	4,332.00	52.8
18 "	39	1,574.00	40.4
19 "	26	994.00	38.2
20 "	14	531.00	38.0
21 "	3	88.00	29.3
Over 21 years	4	176.00	44.0
	<u>3,089</u>	<u>224,993.00</u>	<u>72.84</u>

STEVENS COUNTY.

Under 5 years	4	62.50	15.6
5 years	32	1,558.50	48.7
6 "	80	5,156.50	64.5
7 "	79	5,673.50	71.8
8 "	98	8,506.75	86.8
9 "	73	6,310.00	86.4
10 "	92	7,096.25	77.1
11 "	98	8,645.25	88.2
12 "	79	5,973.50	75.6
13 "	64	4,279.50	66.9
14 "	72	4,826.25	67.0
15 "	66	3,847.50	58.3
16 "	47	3,122.75	66.4
17 "	39	2,151.50	55.2
18 "	28	1,262.00	45.0
19 "	19	887.00	46.7
20 "	11	606.50	55.1
21 " .....	.....	.....	.....
Over 21 years	<u>2</u>	<u>39.00</u>	<u>19.1</u>
	<u>983</u>	<u>70,004.75</u>	<u>71.22</u>

MORRISON COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	13	245.00	18.8
5 years.....	112	4,474.00	39.1
6 ".....	207	11,788.00	57.0
7 ".....	273	23,670.00	86.7
8 ".....	282	22,251.00	78.9
9 ".....	254	20,193.00	79.5
10 ".....	304	23,642.00	77.8
11 ".....	229	17,461.00	76.2
12 ".....	241	18,604.00	77.2
13 ".....	196	12,691.00	64.7
14 ".....	145	8,720.00	60.1
15 ".....	103	6,207.00	60.2
16 ".....	52	3,279.00	63.1
17 ".....	39	2,194.00	56.3
18 ".....	23	998.00	43.4
19 ".....	14	552.00	39.4
20 ".....	4	148.00	37.0
21 ".....	4	149.00	37.0
Over 21 years.....	.....	.....	.....
	2,495	177,266.00	71.0

GOODHUE COUNTY.

Under 5 years.....	13	350.50	27.0
5 years.....	211	10,160.75	48.2
6 ".....	462	32,279.25	69.9
7 ".....	551	42,287.00	76.7
8 ".....	559	46,487.00	83.2
9 ".....	529	45,108.00	85.3
10 ".....	590	48,407.50	82.0
11 ".....	538	42,944.00	79.8
12 ".....	587	42,954.25	73.2
13 ".....	511	34,426.00	67.4
14 ".....	377	21,973.00	58.3
15 ".....	298	17,094.00	57.4
16 ".....	241	13,462.75	55.9
17 ".....	166	9,530.75	57.4
18 ".....	109	5,726.75	52.5
19 ".....	63	2,663.00	42.3
20 ".....	44	1,759.25	40.0
21 ".....	12	605.50	50.5
Over 21 years.....	46	1,385.00	30.1
	5,907	419,604.25	71.04

WRIGHT COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	23	595.00	25.9
5 years.....	233	11,114.75	47.7
6 ".....	377	24,030.00	63.7
7 ".....	557	41,158.75	73.9
8 ".....	565	42,942.25	76.0
9 ".....	583	45,464.25	78.0
10 ".....	634	49,828.50	78.6
11 ".....	573	44,013.25	76.8
12 ".....	571	41,018.00	71.8
13 ".....	479	33,817.25	70.6
14 ".....	377	24,733.00	65.6
15 ".....	318	21,407.25	67.3
16 ".....	241	14,452.00	60.0
17 ".....	147	8,445.25	57.5
18 ".....	99	4,755.75	48.0
19 ".....	57	3,331.50	58.4
20 ".....	50	2,432.50	48.6
21 ".....	9	443.00	49.0
Over 21 years.....	18	909.00	50.0
	<hr/> 5,911	<hr/> 414,889.25	<hr/> 70.19

ROCK COUNTY.

Under 5 years.....	9	168.00	18.1
5 years.....	79	3,324.25	42.1
6 ".....	161	10,069.25	62.5
7 ".....	175	12,032.50	68.8
8 ".....	170	12,438.50	73.2
9 ".....	168	13,827.00	82.3
10 ".....	160	12,001.50	75.0
11 ".....	134	11,372.25	84.9
12 ".....	131	10,168.00	77.6
13 ".....	125	8,302.50	66.4
14 ".....	105	6,694.50	63.8
15 ".....	98	6,648.25	67.9
16 ".....	85	4,980.00	58.6
17 ".....	45	2,266.00	50.4
18 ".....	43	2,261.25	52.6
19 ".....	21	1,138.00	54.2
20 ".....	9	314.00	34.9
21 ".....	8	301.00	37.6
Over 21 years.....	17	651.75	38.3
	<hr/> 1,743	<hr/> 118,958.50	<hr/> 68.25

BECKER COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	13	382.50	29.4
5 years.....	83	3,352.50	40.4
6 ".....	140	9,497.00	67.8
7 ".....	178	10,927.50	61.4
8 ".....	180	13,406.25	74.5
9 ".....	183	14,819.50	81.0
10 ".....	197	16,220.75	82.3
11 ".....	167	12,852.75	77.0
12 ".....	190	14,909.00	78.5
13 ".....	179	13,279.75	74.2
14 ".....	124	7,975.25	64.3
15 ".....	123	7,155.25	58.2
16 ".....	64	2,983.75	46.6
17 ".....	57	2,651.00	46.5
18 ".....	46	2,528.50	55.0
19 ".....	16	854.50	53.4
20 ".....	19	543.00	28.6
21 ".....	9	503.50	55.9
Over 21 years.....	18	607.00	33.7
	<hr/> 1,986	<hr/> 135,449.25	<hr/> 68.20

FREEBORN COUNTY.

Under 5 years.....	14	427.50	30.5
5 years.....	160	6,932.25	43.3
6 ".....	325	18,565.50	57.1
7 ".....	374	25,581.25	68.4
8 ".....	405	31,474.75	77.7
9 ".....	409	32,531.50	79.5
10 ".....	395	31,495.75	79.7
11 ".....	361	30,545.50	84.6
12 ".....	372	27,299.50	73.4
13 ".....	331	22,558.00	68.2
14 ".....	284	17,015.75	59.9
15 ".....	223	11,420.00	51.2
16 ".....	164	7,884.75	48.1
17 ".....	149	8,021.75	53.8
18 ".....	91	4,519.00	49.7
19 ".....	53	1,890.25	35.7
20 ".....	31	1,158.25	37.4
21 ".....	11	581.25	52.8
Over 21 years.....	20	717.50	35.9
	<hr/> 4,172	<hr/> 280,620.00	<hr/> 67.26

BIG STONE COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	3	9.00	3.0
5 years.....	49	2,452.00	50.0
6 ".....	119	7,193.25	60.4
7 ".....	117	8,043.75	68.7
8 ".....	145	10,326.00	71.2
9 ".....	125	10,116.75	80.9
10 ".....	113	9,123.50	80.7
11 ".....	108	7,645.00	70.8
12 ".....	110	7,521.50	68.4
13 ".....	97	6,941.25	71.6
14 ".....	93	6,060.75	65.2
15 ".....	78	4,415.50	56.6
16 ".....	42	2,354.75	56.1
17 ".....	42	2,229.50	53.1
18 ".....	21	1,198.00	57.0
19 ".....	25	1,325.25	53.0
20 ".....	12	643.75	53.6
21 ".....	6	236.75	39.4
Over 21 years.....	11	451.50	41.0
	<hr/> 1,316	<hr/> 88,287.75	<hr/> 67.09

CHIPPEWA COUNTY.

Under 5 years.....	3	111.00	37.0
5 years.....	61	1,935.50	31.7
6 ".....	123	6,066.25	49.3
7 ".....	182	13,234.75	72.7
8 ".....	199	14,406.75	72.4
9 ".....	186	15,666.00	84.2
10 ".....	231	18,257.75	79.0
11 ".....	202	15,409.75	76.3
12 ".....	199	14,117.75	70.9
13 ".....	184	12,971.75	70.5
14 ".....	154	9,130.75	59.3
15 ".....	108	5,862.00	52.4
16 ".....	77	4,569.00	59.3
17 ".....	45	1,758.25	39.1
18 ".....	28	1,459.50	52.1
19 ".....	18	552.00	30.7
20 ".....	17	428.75	25.2
21 ".....	4	112.75	28.2
Over 21 years.....	9	188.75	21.0
	<hr/> 2,030	<hr/> 136,039.00	<hr/> 67.10

WATONWAN COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	9	220.00	24.4
5 years.....	57	2,576.75	45.2
6 ".....	119	7,363.25	61.9
7 ".....	128	9,759.25	76.2
8 ".....	138	10,144.25	73.5
9 ".....	149	11,978.00	80.4
10 ".....	148	11,008.00	74.4
11 ".....	149	10,145.25	68.1
12 ".....	172	12,721.00	73.9
13 ".....	127	9,130.00	71.9
14 ".....	123	7,732.50	62.9
15 ".....	102	7,155.75	70.2
16 ".....	70	3,666.75	52.4
17 ".....	72	3,648.50	50.7
18 ".....	42	2,116.00	50.4
19 ".....	30	1,413.25	47.1
20 ".....	22	705.75	32.1
21 ".....	9	198.00	22.0
Over 21 years.....	13	332.00	26.0
	<hr/> 1,679	<hr/> 112,020.25	<hr/> 66.72

YELLOW MEDICINE COUNTY..

Under 5 years.....	11	175.00	15.9
5 years.....	86	3,138.00	36.5
6 ".....	186	13,319.25	71.6
7 ".....	208	15,341.25	73.8
8 ".....	210	16,323.25	77.7
9 ".....	209	16,208.00	77.5
10 ".....	206	14,660.50	71.2
11 ".....	218	16,700.50	76.6
12 ".....	181	12,971.75	71.7
13 ".....	200	12,729.00	63.6
14 ".....	174	11,737.00	67.5
15 ".....	108	5,723.00	53.0
16 ".....	113	6,030.00	53.4
17 ".....	67	3,677.50	54.9
18 ".....	67	2,972.50	44.4
19 ".....	17	746.00	43.9
20 ".....	35	1,382.00	39.5
21 ".....	6	224.50	37.4
Over 21 years.....	22	585.00	26.6
	<hr/> 2,324	<hr/> 154,644.00	<hr/> 66.54

STEELE COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	15	397.00	26.5
5 years.....	93	3,296.00	35.4
6 ".....	151	8,938.00	59.2
7 ".....	141	9,672.00	68.6
8 ".....	156	12,263.00	78.6
9 ".....	152	11,889.00	78.2
10 ".....	157	12,188.00	77.6
11 ".....	137	10,326.00	75.4
12 ".....	141	9,932.00	70.4
13 ".....	121	8,115.00	67.1
14 ".....	114	6,582.00	57.7
15 ".....	80	3,894.00	48.7
16 ".....	64	2,839.00	44.4
17 ".....	38	1,946.00	51.2
18 ".....	21	1,067.00	50.8
19 ".....	12	412.00	34.3
20 ".....	7	182.00	26.0
21 ".....	2	78.00	39.0
Over 21 years.....	2	103.00	51.5
	<hr/> 1,604	<hr/> 104,119.00	<hr/> 64.91

KITTSOON COUNTY.

Under 5 years.....	4	39.00	9.7
5 years.....	33	1,609.00	48.8
6 ".....	68	4,479.00	65.9
7 ".....	80	5,029.00	62.9
8 ".....	84	6,033.00	71.8
9 ".....	67	5,449.00	81.3
10 ".....	101	7,510.00	74.4
11 ".....	84	6,859.00	81.7
12 ".....	77	5,136.00	66.7
13 ".....	75	5,138.00	68.5
14 ".....	48	2,561.00	53.4
15 ".....	47	2,138.00	45.5
16 ".....	40	2,140.00	53.5
17 ".....	20	1,020.00	51.0
18 ".....	26	1,092.00	42.0
19 ".....	5	193.00	38.6
20 ".....	14	554.00	39.6
21 ".....	3	84.00	28.0
Over 21 years.....	9	232.00	25.8
	<hr/> 885	<hr/> 57,295.00	<hr/> 64.74

SIBLEY COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	11	164.50	15.0
5 years.....	118	4,644.25	39.4
6 ".....	276	18,629.75	67.5
7 ".....	306	23,253.00	76.0
8 ".....	367	27,757.50	75.6
9 ".....	328	26,457.00	80.7
10 ".....	337	26,827.50	79.6
11 ".....	340	26,942.50	78.2
12 ".....	337	23,779.25	70.6
13 ".....	294	20,553.25	69.9
14 ".....	286	17,012.00	59.5
15 ".....	201	11,469.50	57.1
16 ".....	181	10,885.50	67.6
17 ".....	103	6,033.50	58.6
18 ".....	56	2,589.75	46.2
19 ".....	34	1,395.75	41.1
20 ".....	17	703.50	41.4
21 ".....	2	58.00	29.0
Over 21 years.....	13	415.50	32.0
	3,587	249,571.50	64.00

KANDIYOHI COUNTY.

Under 5 years.....	5	146.75	29.3
5 years.....	58	1,936.50	33.4
6 ".....	212	11,296.75	53.3
7 ".....	282	19,167.25	68.0
8 ".....	304	22,411.50	73.7
9 ".....	362	28,502.00	78.7
10 ".....	327	25,494.50	78.0
11 ".....	308	22,400.25	72.7
12 ".....	339	22,872.50	67.5
13 ".....	288	17,827.00	61.9
14 ".....	260	14,799.00	56.9
15 ".....	210	10,759.00	51.2
16 ".....	130	5,813.25	44.7
17 ".....	96	4,114.50	42.9
18 ".....	67	2,797.00	41.7
19 ".....	34	1,432.75	42.1
20 ".....	39	959.75	24.6
21 ".....	23	640.50	27.8
Over 21 years.....	29	799.00	27.5
	3,373	214,169.75	63.52

OTTER TAIL COUNTY.

Ages	No. Pupls Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	31	997.50	32.2
5 years.....	412	18,138.75	44.0
6 ".....	661	39,295.00	59.4
7 ".....	731	49,337.50	67.5
8 ".....	803	57,635.50	71.8
9 ".....	775	59,362.00	76.6
10 ".....	807	58,678.00	72.7
11 ".....	787	55,816.75	70.9
12 ".....	739	48,346.75	65.2
13 ".....	661	39,807.50	60.2
14 ".....	566	29,712.25	52.5
15 ".....	430	20,705.00	48.2
16 ".....	274	13,347.75	48.7
17 ".....	168	7,453.00	44.4
18 ".....	90	3,362.25	37.4
19 ".....	53	1,870.00	35.3
20 ".....	51	1,647.50	32.3
21 ".....	13	360.50	27.7
Over 21 years.....	41	1,272.00	31.0
	8,093	507,145.50	22.66

SWIFT COUNTY.

Under 5 years.....	8	217.00	27.1
5 years.....	74	3,026.00	40.9
6 ".....	174	9,368.00	53.8
7 ".....	238	15,897.00	66.8
8 ".....	189	12,822.00	67.8
9 ".....	195	14,353.00	73.6
10 ".....	193	14,243.00	73.8
11 ".....	195	13,228.00	67.8
12 ".....	172	11,195.00	65.1
13 ".....	183	10,396.00	56.8
14 ".....	152	8,992.00	59.2
15 ".....	118	7,892.00	66.9
16 ".....	89	3,847.00	43.2
17 ".....	63	3,610.00	57.5
18 ".....	49	2,217.00	45.7
19 ".....	26	1,453.00	55.9
20 ".....	17	1,139.00	67.0
21 ".....	7	242.00	34.6
Over 21 years.....	7	251.00	35.9
	2,149	134,386.00	62.07

MURRAY COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	9	217.00	24.1
5 years.....	112	3,462.75	30.9
6 ".....	142	9,273.50	65.3
7 ".....	166	12,232.75	73.7
8 ".....	193	13,707.25	71.0
9 ".....	169	12,508.00	74.0
10 ".....	153	11,283.00	73.7
11 ".....	149	10,404.25	69.8
12 ".....	147	9,207.75	62.6
13 ".....	155	9,245.50	59.7
14 ".....	129	7,292.25	56.5
15 ".....	117	6,983.25	59.7
16 ".....	71	3,219.50	45.3
17 ".....	36	1,376.50	38.2
18 ".....	28	821.00	29.3
19 ".....	15	570.25	38.0
20 ".....	13	504.75	23.4
21 ".....	10	262.50	26.2
Over 21 years.....	12	288.25	24.0
	<hr/> 1,826	<hr/> 112,858.00	<hr/> 61.81

GRANT COUNTY.

Under 5 years.....	5	102.00	20.0
5 years.....	67	3,268.00	57.7
6 ".....	128	7,694.00	90.1
7 ".....	171	11,251.00	65.8
8 ".....	172	12,466.00	72.5
9 ".....	163	11,704.00	71.8
10 ".....	143	10,314.00	72.1
11 ".....	183	12,442.00	68.0
12 ".....	145	10,099.00	69.6
13 ".....	158	7,794.00	49.3
14 ".....	104	5,373.00	51.7
15 ".....	71	3,204.00	45.1
16 ".....	57	2,196.00	38.5
17 ".....	41	1,529.00	37.3
18 ".....	30	1,020.00	34.0
19 ".....	11	410.00	37.3
20 ".....	7	268.00	38.3
21 ".....	5	181.00	36.2
Over 21 years.....	13	326.00	25.1
	<hr/> 1,674	<hr/> 102,241.00	<hr/> 61.08

JACKSON COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	14	374.50	26.7
5 years.....	119	4,996.50	42.0
6 ".....	162	9,907.00	61.2
7 ".....	198	14,544.75	73.5
8 ".....	187	12,777.25	68.3
9 ".....	211	15,975.50	75.7
10 ".....	226	15,639.75	69.2
11 ".....	193	13,070.00	67.7
12 ".....	206	13,341.25	64.8
13 ".....	173	10,050.75	58.1
14 ".....	155	9,020.00	58.2
15 ".....	113	5,696.50	50.4
16 ".....	108	4,737.75	43.9
17 ".....	81	2,960.75	36.6
18 ".....	62	2,488.50	40.1
19 ".....	27	1,080.75	40.0
20 ".....	26	796.50	30.6
21 ".....	5	255.50	51.1
Over 21 years.....	12	271.00	22.6
	<hr/> 2,278	<hr/> 137,984.50	<hr/> 60.57

NORMAN COUNTY.

Under 5 years.....	12	207.50	17.3
5 years.....	81	3,728.50	46.0
6 ".....	192	9,867.75	51.4
7 ".....	188	12,011.50	63.9
8 ".....	192	13,199.00	68.7
9 ".....	186	13,754.25	73.9
10 ".....	215	14,961.50	60.6
11 ".....	160	10,830.75	67.7
12 ".....	192	12,505.25	65.1
13 ".....	129	7,711.50	59.6
14 ".....	120	5,839.00	48.6
15 ".....	81	4,065.75	50.2
16 ".....	53	2,014.00	38.0
17 ".....	26	1,027.50	39.5
18 ".....	23	919.75	39.9
19 ".....	17	386.50	22.7
20 ".....	13	391.00	30.1
21 ".....	4	81.00	20.2
Over 21 years.....	17	8.75	21.7
	<hr/> 1,901	<hr/> 113,868.75	<hr/> 59.89

RENVILLE COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	19	245.50	12.9
5 years.....	174	6,765.75	38.9
6 ".....	319	17,349.00	54.4
7 ".....	402	26,238.25	65.3
8 ".....	389	26,191.25	67.3
9 ".....	412	29,622.75	71.9
10 ".....	409	28,473.00	69.6
11 ".....	366	23,964.25	65.5
12 ".....	424	28,466.00	67.1
13 ".....	382	20,548.25	53.8
14 ".....	334	18,337.25	54.9
15 ".....	238	12,105.50	50.9
16 ".....	190	8,283.00	43.6
17 ".....	125	4,901.50	39.2
18 ".....	77	2,741.50	35.6
19 ".....	44	1,491.00	33.9
20 ".....	38	1,226.25	32.3
21 ".....	3	68.00	22.7
Over 21 years.....	14	430.50	30.7
	<hr/> 4,359	<hr/> 257,448.50	<hr/> 59.06

MEEKER COUNTY.

Under 5 years.....	23	807.25	35.1
5 years.....	129	4,845.50	37.6
6 ".....	245	14,033.00	57.3
7 ".....	353	23,479.25	66.5
8 ".....	413	28,116.00	68.1
9 ".....	417	29,152.50	69.9
10 ".....	374	27,488.00	73.5
11 ".....	350	24,959.00	71.3
12 ".....	380	22,807.50	60.0
13 ".....	334	18,014.25	53.9
14 ".....	299	13,980.75	46.8
15 ".....	215	9,319.75	43.3
16 ".....	157	6,752.50	43.0
17 ".....	101	4,247.75	42.1
18 ".....	75	2,050.50	27.3
19 ".....	36	1,194.00	33.0
20 ".....	21	984.50	46.9
21 ".....	10	215.00	21.5
Over 21 years.....	16	256.00	16.0
	<hr/> 3,948	<hr/> 232,703.00	<hr/> 58.94

TRAVERSE COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	4	143.00	35.1
5 years.....	50	1,530.50	30.6
6 ".....	101	5,283.75	52.3
7 ".....	115	7,288.50	63.2
8 ".....	95	7,001.00	73.7
9 ".....	98	6,708.75	68.5
10 ".....	86	6,173.50	71.8
11 ".....	94	5,711.25	60.8
12 ".....	99	6,461.50	65.3
13 ".....	73	3,959.00	54.2
14 ".....	60	2,914.25	48.6
15 ".....	62	3,029.00	48.9
16 ".....	51	2,104.50	41.3
17 ".....	27	2,091.00	77.4
18 ".....	29	1,585.75	54.7
19 ".....	12	663.00	55.2
20 ".....	12	652.75	54.4
21 ".....	1	38.00	38.0
Over 21 years.....	14	463.00	33.1
	<hr/> 1,083	<hr/> 63,782.00	<hr/> 58.89

POPE COUNTY.

Under 5 years.....	4	67.50	16.9
5 years.....	73	1,997.50	27.3
6 ".....	173	9,362.25	54.0
7 ".....	218	12,983.00	59.6
8 ".....	200	13,051.75	65.3
9 ".....	256	17,877.50	69.8
10 ".....	228	15,394.00	67.5
11 ".....	228	15,580.25	68.3
12 ".....	228	14,436.50	63.3
13 ".....	197	11,814.25	60.0
14 ".....	164	8,147.25	49.7
15 ".....	140	7,186.00	51.0
16 ".....	75	3,329.25	44.4
17 ".....	52	2,572.25	49.5
18 ".....	42	1,530.00	36.4
19 ".....	21	738.75	35.2
20 ".....	32	1,329.75	41.6
21 ".....	9	357.00	39.7
Over 21 years.....	13	480.00	37.0
	<hr/> 2,353	<hr/> 138,234.75	<hr/> 58.75

LINCOLN COUNTY.

Ages.	No. Pupils Enumerated	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	9	292.00	32.0
5 years.....	42	1,438.00	34.2
6 ".....	111	7,186.25	64.7
7 ".....	131	8,095.75	61.8
8 ".....	150	10,156.50	67.7
9 ".....	113	7,869.00	69.6
10 ".....	147	8,769.75	59.7
11 ".....	124	7,753.75	62.5
12 ".....	161	10,262.00	63.7
13 ".....	111	6,183.50	55.7
14 ".....	102	5,516.00	54.1
15 ".....	60	2,742.50	45.7
16 ".....	59	2,731.25	46.3
17 ".....	29	1,037.50	35.8
18 ".....	34	1,434.00	42.2
19 ".....	19	686.00	36.1
20 ".....	11	294.00	26.7
21 ".....	3	70.00	23.3
Over 21 years.....	10	346.00	34.6
	<hr/> 1,426	<hr/> 82,863.75	<hr/> 58.11

CLAY COUNTY.

Under 5 years.....	8	163.00	20.4
5 years.....	80	3,523.00	44.0
6 ".....	155	18,801.00	121.3
7 ".....	201	11,784.00	58.6
8 ".....	213	12,288.00	57.7
9 ".....	227	14,960.00	65.9
10 ".....	206	11,928.00	57.9
11 ".....	217	12,542.00	57.8
12 ".....	181	9,602.00	53.0
13 ".....	170	8,744.00	51.4
14 ".....	176	7,279.00	41.4
15 ".....	102	4,057.00	39.8
16 ".....	47	1,403.00	29.9
17 ".....	26	843.00	32.4
18 ".....	37	1,272.00	34.4
19 ".....	11	364.00	33.1
20 ".....	13	268.00	20.6
21 ".....	3	63.00	21.0
Over 21 years.....	14	46.00	24.7
	<hr/> 2,087	<hr/> 119,930.00	<hr/> 58.09

ISANTI COUNTY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	2	79.00	39.5
5 years.....	57	1,579.50	27.7
6 ".....	98	4,510.50	47.0
7 ".....	148	9,096.25	61.5
8 ".....	193	12,963.50	67.2
9 ".....	163	10,628.50	65.2
10 ".....	208	13,287.25	63.9
11 ".....	182	10,917.25	59.9
12 ".....	206	13,012.75	63.2
13 ".....	178	9,981.25	56.1
14 ".....	140	7,038.00	50.3
15 ".....	96	4,758.25	49.6
16 ".....	41	1,717.50	41.9
17 ".....	16	469.00	29.3
18 ".....	6	138.00	23.0
19 ".....	4	90.00	22.5
20 ".....	7	161.75	21.7
21 ".....	3	72.00	24.0
Over 21 years.....	11	200.00	18.2
	<hr/> 1,757	<hr/> 100,688.25	<hr/> 57.31

LAC QUI PARLE COUNTY.

Under 5 years.....	10	193.50	19.3
5 years.....	102	3,280.50	32.1
6 ".....	193	9,933.50	51.4
7 ".....	224	14,406.00	64.3
8 ".....	269	18,754.50	69.7
9 ".....	257	17,857.25	69.5
10 ".....	254	17,054.25	67.1
11 ".....	208	13,206.75	63.5
12 ".....	244	14,994.00	61.5
13 ".....	184	9,739.00	52.9
14 ".....	152	6,717.50	44.2
15 ".....	120	5,112.75	42.6
16 ".....	107	3,980.50	37.2
17 ".....	68	2,443.00	35.9
18 ".....	50	1,489.75	29.8
19 ".....	24	970.50	40.4
20 ".....	31	888.75	28.7
21 ".....	7	197.00	28.1
Over 21 years.....	32	1,034.50	32.3
	<hr/> 2,536	<hr/> 142,252.50	<hr/> 56.09

POLK COUNTY.

Ages.	No. Pupils Enumerated.	Total Days. Attendance.	Av. Days Attendance.
Under 5 years.....	12	267.00	22.2
5 years.....	267	10,631.75	39.8
6 ".....	450	27,339.25	60.8
7 ".....	518	31,387.75	60.6
8 ".....	481	31,657.00	65.8
9 ".....	540	33,759.25	62.5
10 ".....	523	34,569.50	66.1
11 ".....	498	29,372.00	59.0
12 ".....	470	27,506.50	58.5
13 ".....	402	21,588.25	53.7
14 ".....	324	15,672.25	48.4
15 ".....	236	10,071.50	42.7
16 ".....	174	6,658.00	38.3
17 ".....	134	4,546.25	33.9
18 ".....	87	2,755.00	31.1
19 ".....	57	1,931.25	33.9
20 ".....	32	806.00	25.2
21 ".....	12	310.00	25.8
Over 21 years.....	40	1,084.75	27.1
	<hr/> 5,257	<hr/> 291,913.25	<hr/> 55.53

TABLE 22.—PUBLIC SCHOOLS.

Table showing the number of pupils enumerated, the total days' attendance, and the average days' attendance by ages, for nineteen cities having over 3,000 inhabitants.

NEW ULM CITY.

Under 5 years.....	...	.....	.....
5 years.....	...	.....	.....
6 ".....	16	2,468.00	154.2
7 ".....	48	7,677.00	159.9
8 ".....	58	9,913.00	170.9
9 ".....	53	8,758.00	165.3
10 ".....	61	10,863.00	178.1
11 ".....	58	9,690.00	167.1
12 ".....	56	8,994.00	160.6
13 ".....	57	8,859.00	155.4
14 ".....	45	6,690.00	148.7
15 ".....	18	2,528.60	140.4
16 ".....	10	1,694.00	169.4
17 ".....	2	249.00	124.5
18 ".....	1	177.00	177.0
19 ".....	...	.....	.....
20 ".....	...	.....	.....
21 ".....	...	.....	.....
Over 21 years.....	...	.....	.....
	<hr/> 483	<hr/> 78,560.00	<hr/> 162.65

WINONA CITY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	1	70.00	70.0
5 years.....	155	15,052.00	97.1
6 ".....	315	34,357.00	109.1
7 ".....	306	41,881.00	136.9
8 ".....	308	43,596.00	141.5
9 ".....	231	40,121.00	173.7
10 ".....	242	39,023.00	161.3
11 ".....	205	32,729.00	159.7
12 ".....	183	31,101.00	170.0
13 ".....	206	30,946.00	150.2
14 ".....	149	26,767.00	179.6
15 ".....	94	12,380.00	131.7
16 ".....	85	9,744.00	114.4
17 ".....	51	5,478.00	107.4
18 ".....	32	3,034.00	94.8
19 ".....	10	873.00	87.3
20 ".....	12	907.00	75.6
21 ".....	1	80.00	80.0
Over 21 years.....	3	216.00	72.0
	<hr/> 2,589	<hr/> 368,355.00	<hr/> 142.28

STILLWATER CITY.

Under 5 years.....	....	.....	.....
5 years.....	2	64.00	32.0
6 ".....	166	18,595.00	112.0
7 ".....	180	26,207.00	145.6
8 ".....	181	27,007.00	149.3
9 ".....	174	25,554.00	146.9
10 ".....	160	23,595.00	147.5
11 ".....	179	25,677.00	143.4
12 ".....	138	20,163.00	146.1
13 ".....	150	21,310.00	142.1
14 ".....	112	14,553.00	129.9
15 ".....	103	13,147.00	127.6
16 ".....	41	5,336.00	130.1
17 ".....	38	4,719.00	124.2
18 ".....	16	2,092.00	130.7
19 ".....	12	1,792.00	149.3
20 ".....	4	436.00	109.0
21 ".....	2	227.00	113.5
Over 21 years.....	....	.....	.....
	<hr/> 1,658	<hr/> 230,474.00	<hr/> 139.01

ST. PETER CITY.

Ages.	No. Pupils. Enumerated	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	.....	.....	.....
5 years.....	8	1,035.00	129.4
6 ".....	38	4,729.00	124.4
7 ".....	79	11,271.00	142.7
8 ".....	62	9,371.00	151.1
9 ".....	55	7,909.00	143.8
10 ".....	62	9,607.00	155.0
11 ".....	63	9,588.00	152.2
12 ".....	52	7,358.00	141.5
13 ".....	61	8,076.00	132.4
14 ".....	58	8,220.00	141.7
15 ".....	30	3,457.00	115.2
16 ".....	40	4,295.00	107.4
17 ".....	29	3,060.00	105.5
18 ".....	20	2,075.00	103.7
19 ".....	9	1,089.00	121.0
20 ".....	4	570.00	142.5
21 ".....	.....	.....	.....
Over 21 years.....	2	338.00	169.0
	672	92,048.00	136.98

WASECA CITY.

Under 5 years.....	.....	.....	.....
5 years.....	11	463.00	42.1
6 ".....	35	3,628.00	103.6
7 ".....	40	4,618.00	115.4
8 ".....	46	6,016.00	130.8
9 ".....	39	5,713.00	146.5
10 ".....	51	7,384.00	144.8
11 ".....	49	5,978.00	122.0
12 ".....	54	6,891.00	127.6
13 ".....	51	6,768.00	132.7
14 ".....	53	6,899.00	130.2
15 ".....	27	3,412.00	126.4
16 ".....	29	4,325.00	149.1
17 ".....	12	1,250.00	104.2
18 ".....	8	860.00	107.5
19 ".....	7	298.00	42.6
20 ".....	.....	.....	.....
21 ".....	2	171.00	85.5
Over 21 years.....	.....	.....	.....
	514	64,672.00	136.44

RED WING CITY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	....	.....	.....
5 years.....	56	4,521.25	80.7
6 ".....	158	17,830.00	112.8
7 ".....	153	21,049.50	137.6
8 ".....	131	19,417.00	148.2
9 ".....	130	19,304.00	148.5
10 ".....	130	19,497.50	150.0
11 ".....	137	19,626.50	143.3
12 ".....	139	20,336.50	146.3
13 ".....	136	17,199.50	126.5
14 ".....	85	11,540.00	135.8
15 ".....	63	7,851.50	124.6
16 ".....	40	4,937.00	123.4
17 ".....	22	2,796.50	127.1
18 ".....	8	874.50	109.3
19 ".....	4	213.00	53.0
20 ".....	....	.....	.....
21 ".....	....	.....	.....
Over 21 years.....	....	.....	.....
	1,392	186,993.25	134.33

MANKATO CITY.

Under 5 years.....	...	.....	.....
5 years.....	...	.....	.....
6 ".....	110	11,886.00	108.0
7 ".....	132	17,039.00	129.0
8 ".....	136	19,076.00	140.3
9 ".....	164	23,583.00	143.8
10 ".....	135	19,664.00	145.7
11 ".....	126	18,569.00	147.4
12 ".....	128	16,021.00	125.2
13 ".....	83	11,169.00	134.6
14 ".....	90	11,560.00	128.4
15 ".....	55	7,243.00	131.7
16 ".....	44	5,470.00	124.3
17 ".....	27	3,768.00	139.6
18 ".....	17	2,076.00	122.1
19 ".....	15	1,723.00	114.9
20 ".....	5	568.00	113.6
21 ".....	4	536.00	134.0
Over 21 years.....	1	160.00	160.0
	1,272	170,111.00	133.74

ANOKA CITY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	....	.....	.....
5 years.....	....	.....	.....
6 ".....	68	6,092.00	89.6
7 ".....	76	8,815.00	116.0
8 ".....	97	13,411.00	138.3
9 ".....	88	12,730.00	144.7
10 ".....	101	14,844.00	147.0
11 ".....	56	7,423.00	132.6
12 ".....	93	12,442.00	133.8
13 ".....	71	9,859.00	138.9
14 ".....	74	9,836.00	132.9
15 ".....	76	10,111.00	133.0
16 ".....	43	5,275.00	122.7
17 ".....	30	4,117.00	137.2
18 ".....	20	2,591.00	129.5
19 ".....	12	1,260.00	105.0
20 ".....	5	394.00	78.8
21 ".....	1	148.00	148.0
Over 21 years.....	1	44.00	44.0
	912	119,392.00	130.91

FERGUS FALLS CITY.

Under 5 years.....	....	.....	.....
5 years.....	16	1,736.00	10.8
6 ".....	77	10,210.00	13.3
7 ".....	94	14,136.00	150.4
8 ".....	96	14,034.00	146.0
9 ".....	83	12,131.00	146.0
10 ".....	86	12,639.00	147.0
11 ".....	87	11,521.00	132.4
12 ".....	71	9,939.00	140.0
13 ".....	86	11,901.00	138.0
14 ".....	66	8,621.00	130.6
15 ".....	70	7,431.00	106.0
16 ".....	77	7,249.00	94.0
17 ".....	34	3,460.00	102.0
18 ".....	23	1,888.00	82.0
19 ".....	17	1,055.00	62.0
20 ".....	14	559.00	40.0
21 ".....	1	34.00	34.0
Over 21 years.....	3	83.00	28.0
	1001	128,627.00	128.50

ST. PAUL CITY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	....	.....	.....
5 years.....	2	157.00	78.5
6 ".....	772	81,993.00	106.2
7 ".....	750	90,569.00	120.8
8 ".....	695	96,513.00	138.9
9 ".....	701	100,345.00	143.1
10 ".....	789	142,466.00	180.6
11 ".....	635	79,812.00	125.7
12 ".....	634	84,166.00	132.8
13 ".....	619	76,413.00	123.4
14 ".....	554	64,986.00	117.3
15 ".....	371	39,496.00	106.5
16 ".....	187	17,033.00	91.1
17 ".....	71	4,890.00	68.9
18 ".....	48	2,384.00	49.7
19 ".....	31	1,274.00	41.1
20 ".....	15	402.00	26.8
21 ".....	6	155.00	25.8
Over 21 years.....	25	728.00	29.1
	6,905	883,782.00	127.99

ROCHESTER CITY.

Under 5 years.....	1	48.00	48.0
5 years.....	79	6,552.00	83.2
6 ".....	97	9,256.00	95.4
7 ".....	137	14,670.00	107.1
8 ".....	105	13,928.00	132.6
9 ".....	109	14,600.00	133.9
10 ".....	118	16,575.00	140.5
11 ".....	90	12,508.00	138.9
12 ".....	91	12,943.00	142.2
13 ".....	80	10,024.00	125.3
14 ".....	70	9,440.00	134.9
15 ".....	68	8,724.00	128.3
16 ".....	34	4,671.00	137.4
17 ".....	22	3,057.00	139.0
18 ".....	13	1,702.00	130.9
19 ".....	1	8.00	8.0
20 ".....	1	190.00	190.0
21 ".....	1	178.00	178.0
Over 21 years.....	....	.....	.....
	1,117	139,094.00	124.52

ALBERT LEA CITY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	....	.....	.....
5 years.....	....	.....	.....
6 ".....	82	6,483.00	79.1
7 ".....	95	11,332.00	119.3
8 ".....	99	13,215.00	133.5
9 ".....	88	12,197.00	138.6
10 ".....	93	13,778.00	148.2
11 ".....	105	15,242.00	145.2
12 ".....	68	9,638.00	141.7
13 ".....	64	7,299.00	114.0
14 ".....	49	6,241.00	127.4
15 ".....	69	6,787.00	98.4
16 ".....	24	2,637.00	109.9
17 ".....	15	1,536.00	102.4
18 ".....	13	1,545.00	118.8
19 ".....	10	562.00	56.2
20 ".....	3	209.00	69.7
21 ".....	1	35.00	35.0
Over 21 years.....	3	319.00	106.3
	881	109,055.00	123.79

FARIBAULT CITY.

Under 5 years.....	....	.....	.....
5 years.....	53	4,433.00	83.6
6 ".....	76	8,247.00	108.5
7 ".....	110	14,023.00	127.5
8 ".....	90	11,435.00	127.1
9 ".....	92	12,141.00	132.0
10 ".....	73	10,039.00	137.5
11 ".....	75	10,585.00	141.0
12 ".....	92	12,085.00	131.0
13 ".....	78	9,609.00	123.2
14 ".....	77	9,531.00	123.8
15 ".....	66	7,517.00	113.9
16 ".....	45	5,465.00	121.4
17 ".....	30	3,745.00	124.8
18 ".....	12	345.00	28.7
19 ".....	7	856.00	122.0
20 ".....	5	434.00	86.8
21 ".....	5	440.00	88.0
Over 21 years.....	2	140.00	70.0
	988	121,070.00	122.25

DULUTH CITY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	....	.....	.....
5 years.....	88	8,568.00	97.4
6 ".....	285	34,100.00	119.6
7 ".....	304	41,806.00	137.5
8 ".....	360	43,916.00	122.0
9 ".....	389	49,958.00	128.4
10 ".....	353	46,916.00	132.9
11 ".....	299	34,975.00	117.0
12 ".....	259	31,720.00	122.5
13 ".....	264	28,545.00	108.1
14 ".....	208	21,039.00	101.1
15 ".....	131	14,115.00	107.7
16 ".....	81	9,854.00	121.7
17 ".....	37	5,176.00	139.9
18 ".....	19	2,609.00	137.3
19 ".....	14	1,299.00	92.8
20 ".....	4	379.00	94.7
21 ".....	1	49.90	49.0
Over 21 years.....	2	47.00	23.1
	<hr/> 3,098	<hr/> 375,070.00	<hr/> 121.07

OWATONNA CITY.

Under 5 years.....	...	.....	.....
5 years.....	36	2,624.00	72.9
6 ".....	64	7,272.00	113.6
7 ".....	82	10,037.00	122.4
8 ".....	74	10,033.00	135.6
9 ".....	77	10,234.00	132.9
10 ".....	65	8,271.00	127.2
11 ".....	86	12,041.00	140.0
12 ".....	56	6,348.00	113.4
13 ".....	53	6,262.00	118.2
14 ".....	45	5,604.00	124.5
15 ".....	58	6,804.00	117.3
16 ".....	46	5,525.00	120.1
17 ".....	52	6,484.00	124.7
18 ".....	36	3,537.00	98.2
19 ".....	25	2,318.00	92.7
20 ".....	5	446.00	89.2
21 ".....	5	538.00	107.6
Over 21 years.....	2	65.00	32.1
	<hr/> 867	<hr/> 104,443.00	<hr/> 120.46

MINNEAPOLIS CITY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years	1	42.00	42.0
5 years	6	386.00	64.3
6 "	881	91,328.00	103.7
7 "	915	107,316.50	117.3
8 "	977	121,892.00	124.8
9 "	923	118,814.00	128.7
10 "	1,037	128,289.00	123.7
11 "	839	103,574.00	123.4
12 "	871	103,806.00	119.1
13 "	708	85,798.50	121.2
14 "	636	73,499.00	115.6
15 "	477	53,224.50	111.2
16 "	339	34,716.50	102.4
17 "	152	14,876.50	97.9
18 "	59	5,562.50	94.3
19 "	23	1,678.50	73.0
20 "	15	941.50	62.8
21 "	6	214.00	35.7
Over 21 years	9	875.50	97.3
	8,874	1,046,834.50	117.97

ST. CLOUD CITY.

Under 5 years	21	1,464.00	69.7
5 years	58	6,335.00	109.2
6 "	50	5,395.00	107.9
7 "	54	6,266.00	116.0
8 "	66	8,991.00	136.2
9 "	60	8,403.00	140.0
10 "	42	5,726.00	136.3
11 "	56	7,609.00	135.9
12 "	37	4,747.00	128.3
13 "	48	5,294.00	110.3
14 "	30	3,173.00	105.8
15 "	22	2,062.00	93.7
16 "	15	1,042.00	69.5
17 "	8	610.00	76.2
18 "	4	424.00	106.0
19 "	5	456.00	91.2
20 "	4	444.00	111.0
21 "	5	322.00	64.4
Over 21 years	585	68,763.00	117.89

BRAINARD CITY.

Ages.	No. Pupils Enumerated.	Total Days Attendance.	Av. Days Attendance.
Under 5 years.....	.....	.....	.....
5 years.....	34	6,174.00	181.6
6 ".....	145	12,730.00	87.8
7 ".....	84	12,111.00	144.2
8 ".....	138	17,023.00	123.4
9 ".....	128	16,148.00	126.2
10 ".....	126	15,745.00	125.0
11 ".....	101	14,059.00	139.2
12 ".....	112	12,168.00	108.6
13 ".....	95	11,095.00	116.8
14 ".....	81	8,393.00	103.6
15 ".....	57	5,638.00	98.9
16 ".....	38	3,172.00	83.5
17 ".....	18	1,319.00	73.3
18 ".....	7	802.00	114.6
19 ".....	.....	.....	.....
20 ".....	1	32.00	32.0
21 ".....	.....	.....	.....
Over 21 years.....	.....	.....	.....
	1,165	136,609.00	117.26

CROOKSTON CITY.

Under 5 years.....	3	205.00	68.3
5 years.....	59	4,127.50	69.1
6 ".....	138	12,970.00	94.0
7 ".....	112	12,166.50	108.6
8 ".....	126	14,558.00	114.7
9 ".....	131	16,114.50	123.0
10 ".....	125	15,065.25	120.0
11 ".....	106	12,405.50	117.0
12 ".....	120	13,661.50	113.8
13 ".....	100	10,427.00	104.0
14 ".....	90	8,756.25	97.3
15 ".....	58	4,530.00	78.1
16 ".....	62	4,767.00	76.9
17 ".....	29	1,526.75	52.6
18 ".....	21	1,029.00	49.0
19 ".....	13	513.00	39.5
20 ".....	17	694.50	40.9
21 ".....	15	715.00	47.7
Over 21 years.....	31	1,132.00	36.5
	1,356	135,264.25	99.75

TABLE 23.—PAROCHIAL SCHOOLS.

Table showing the number of pupils enumerated, the total number of days attendance, and the average number of days attendance.

Ages.	No. Pupils Enumerated	Total Days Attendance.	Av. Days Attendance.
Under 5 years.	7	364.00	52.0
5 years.	165	14,947.00	90.6
6 "	421	44,313.00	105.3
7 "	585	77,037.00	131.7
8 "	651	96,128.00	147.7
9 "	750	114,406.00	152.5
10 "	776	116,836.00	150.6
11 "	826	124,025.00	150.1
12 "	868	127,817.00	147.2
13 "	692	102,883.00	148.7
14 "	452	64,311.00	142.3
15 "	254	34,956.00	137.6
16 "	138	19,597.00	142.0
17 "	57	7,134.00	125.2
18 "	37	4,525.00	122.3
19 "	13	1,056.00	81.2
20 "	3	200.00	66.7
21 "	3	180.00	60.0
Over 21 years.	3	285.00	95.0
	6,701	950,998.00	141.92

TABLE NO. 24.

Table showing the number of scholars enumerated, the total days attendance, and the average number of days attendance for scholars of each age for the State (Cities and Counties.)

AGES.	No. Scholars Enumerated.	Total Days of Attendance.	Average Days Attendance
Under 5 years.	686	15,494.75	22.59
5 years.	6,974	343,694.25	49.28
6 "	15,526	1,158,986.75	74.65
7 "	17,545	1,518,322.00	86.54
8 "	18,460	1,694,864.00	91.81
9 "	18,204	1,731,369.50	95.11
10 "	18,697	1,781,857.00	95.30
11 "	16,903	1,521,339.75	90.00
12 "	17,290	1,476,257.50	85.38
13 "	15,178	1,239,487.00	81.66
14 "	13,114	1,203,421.00	91.77
15 "	10,108	721,556.00	71.38
16 "	7,112	475,382.75	66.84
17 "	4,628	288,949.00	62.46
18 "	3,019	168,912.00	55.95
19 "	1,655	85,150.00	51.45
20 "	1,171	53,489.50	45.68
21 "	395	18,163.75	45.98
Over 21 years.	757	25,113.25	33.17
	187,420	15,521,809.75	82.82

TABLE NO. 25.

Table showing the average number of days attendance, the number of pupils enumerated, and the total days attendance by children of each age, for the State, exclusive of cities of 3,000 population and over.

AGES.	No. of Pupils Enumerated.	Total Days of Attendance.	Average Days Attendance _e
Under 5 years.....	576	15,129.75	26.27
5 years.....	6,190	286,317.50	46.25
6 ".....	11,909	778,479.75	65.37
7 ".....	13,740	1,046,203.50	76.14
8 ".....	14,611	1,184,344.00	81.51
9 ".....	14,516	1,216,024.00	83.77
10 ".....	14,883	1,219,193.25	81.92
11 ".....	13,621	1,079,610.75	79.26
12 ".....	13,998	1,048,867.50	74.93
13 ".....	12,255	863,180.25	70.43
14 ".....	10,597	685,951.75	64.92
15 ".....	8,230	503,987.00	61.24
16 ".....	5,912	337,155.25	57.03
17 ".....	3,969	216,400.25	54.52
18 ".....	2,649	133,119.00	50.25
19 ".....	1,454	67,914.50	46.71
20 ".....	1,072	45,700.50	42.63
21 ".....	337	14,032.75	41.64
Over 21 years.....	673	20,981.75	31.18
	151,192	10,762,593.00	71.18

TABLE 26.

Table showing the number of scholars enumerated, the total days attendance and the average number of days attendance for scholars of each age for nineteen cities.

AGES.	No. Pupils Enumerated.	Total Days of Attendance.	Average Days Attendance
Under 5 years.....	110	365.00	3.32
5 years.....	884	57,376.75	64.91
6 ".....	3,617	380,507.00	105.20
7 ".....	3,805	472,118.50	124.08
8 ".....	3,849	510,520.00	132.64
9 ".....	3,688	515,345.50	139.74
10 ".....	3,814	562,663.75	147.53
11 ".....	3,282	441,729.00	134.59
12 ".....	3,293	427,390.00	129.79
13 ".....	2,923	376,307.00	128.74
14 ".....	2,517	317,469.25	126.13
15 ".....	1,878	217,569.00	115.85
16 ".....	1,200	138,227.50	115.19
17 ".....	657	72,548.75	110.42
18 ".....	370	35,793.00	96.74
19 ".....	201	17,235.50	85.75
20 ".....	99	7,789.00	78.68
21 ".....	58	4,131.00	71.22
Over 21 years.....	84	4,131.50	49.19
	36,289	4,559,217.00	125.64

TABLE 27.

Table Showing the number of Children Enumerated, the Total Days Attendance, and the Average Days Attendance by all Pupils, for 52 Counties.

COUNTIES.	No. of Pupils Reported.	Total days attendance by all Pupils Reporting.	Average No. Days Att. by pupils reporting.
1 St. Louis.....	892	88,386.25	99.09
2 Wabasha.....	4,159	400,657.00	96.32
3 Ramsey.....	1,162	111,297.50	95.78
4 Washington.....	2,598	227,503.00	87.57
5 Nicollet.....	2,413	210,581.00	87.27
6 Wadena.....	1,868	162,485.75	86.98
7 Winona.....	4,237	367,040.25	86.18
8 Fillmore.....	7,287	610,725.00	83.81
9 Rice.....	5,412	446,778.00	82.52
10 Nobles.....	2,075	168,742.00	81.31
11 Sherburne.....	1,466	113,930.00	77.71
12 Mille Lacs.....	560	42,839.50	76.50
13 Faribault.....	3,852	294,251.00	76.39
14 Pipestone.....	1,434	106,762.75	74.45
15 Blue Earth.....	4,784	355,552.00	74.32
16 Hennepin.....	6,816	504,592.25	74.03
17 Anoka.....	1,282	94,770.25	73.93
18 Brown.....	3,117	229,529.00	73.64
19 Douglas.....	3,528	258,665.50	73.32
20 McLeod.....	4,206	308,182.75	73.27
21 Redwood.....	2,233	163,099.25	73.04
22 Waseca.....	3,089	224,993.00	72.84
23 Stevens.....	983	70,004.75	71.22
24 Morrison.....	2,495	177,266.00	71.05
25 Goodhue.....	5,907	419,604.25	71.04
26 Wright.....	5,911	414,889.25	70.19
27 Rock.....	1,743	118,958.50	68.25
28 Becker.....	1,966	135,449.25	68.20
29 Freeborn.....	4,172	280,620.00	67.26
30 Big Stone.....	1,316	88,287.75	67.09
31 Chippewa.....	2,030	136,039.00	67.01
32 Watonwan.....	1,679	112,020.25	66.72
33 Yellow Medicine.....	2,324	154,644.00	66.54
34 Steele.....	1,604	104,119.00	64.91
35 Kittson.....	885	57,295.00	64.74
36 Sibley.....	3,587	249,571.50	64.00
37 Kandiyohi.....	3,373	214,169.75	63.52
38 Otter Tail.....	8,093	507,145.50	62.66
39 Swift.....	2,149	134,356.00	62.07
40 Murray.....	1,826	112,858.00	61.81
41 Grant.....	1,674	102,241.00	61.08
42 Jackson.....	2,278	137,984.50	60.57
43 Norman.....	1,901	113,868.75	59.89
44 Renville.....	4,359	257,448.50	59.06
45 Meeker.....	3,948	232,763.00	58.94
46 Traverse.....	1,083	63,782.00	58.89
47 Pope.....	2,353	138,234.75	58.75
48 Lincoln.....	1,426	82,863.75	58.11
49 Clay.....	2,087	119,930.00	58.09
50 Isanti.....	1,757	100,688.25	57.31
51 Lac qui Parle.....	2,536	142,252.50	56.09
52 Polk.....	5,257	291,913.25	55.53
	151,192	10,762,593.00	71.18

TABLE 28.

Table Showing the Number of Pupils Enumerated, the Total Days Attendance, and the Average Number of Days Attendance by all Pupils, for Nineteen Cities.

CITIES.	No. Schol- ars Enu- merated.	Total Days of Attend- ance.	Average Days At- tendance.
1 New Ulm.....	483	78,560.00	162.65
2 Winona.....	2,589	368,355.00	142.28
3 Stillwater.....	1,658	230,474.00	139.01
4 St. Peter.....	672	92,048.00	136.98
5 Waseca.....	514	64,672.00	136.44
6 Red Wing.....	1,392	186,993.25	134.33
7 Mankato.....	1,272	170,111.00	133.74
8 Anoka.....	912	119,392.00	130.91
9 Fergus Falls.....	1,001	128,627.00	128.50
10 St. Paul.....	6,905	883,782.00	127.99
11 Rochester.....	1,117	139,094.00	124.52
12 Albert Lea.....	881	109,065.00	123.79
13 Faribault.....	988	121,070.00	122.25
14 Duluth.....	3,098	375,070.00	121.07
15 Owatonna.....	867	104,443.00	120.46
16 Minneapolis.....	8,874	1,046,834.50	117.97
17 St. Cloud.....	585	68,763.00	117.89
18 Brainerd.....	1,165	136,609.00	117.26
19 Crookston.....	1,356	135,264.55	99.75
Total.....	36,289	4,559,217.00	125.64

TABLES FOR THE STATE.

In the preparation of these tables for the state, the Bureau was forced to send for the teacher's term reports to the county superintendents. Out of 77 counties we succeeded, by this method, in securing returns from 52. Leaving out some six or seven counties in which the reports had been burned or destroyed, it is probable that we could have secured reports from 70 out of the 77 had the fund provided for the use of this office been sufficient, after other investigations had been prosecuted, to bear the expense of the necessary traveling involved in the task of going into each county and compiling the reports in the offices of the respective county superintendents. In addition to such increased fullness in the number of counties represented, the number of children secured for the tables in each county would have been, in nearly every case, more complete; for the reports of many teachers which were so confused and indefinite as to require their rejection could have been, in large measure, corrected and explained by the county superintend-

ent, had it been possible for the agents of the Bureau to have made the compilation in his office. Nevertheless, the results are sufficiently complete to be fairly representative, and it is probable that the ratios reduced from the 187,420 children considered will not vary materially from ratios deduced from tables comprehending the whole number in attendance. The general conditions of school attendance obtaining in 52 counties of the state, taken at random, should not vary materially from the conditions of the remaining 25 counties. So far as any variations, in this respect, might exist, it is probable that it would show an attendance somewhat less than that given in the tables, for the better class of schools were more prompt to respond to the inquiry, and the reports more perfect and available for use than the poorer schools, so that the reports of inferior schools would be more frequently rejected as unfit for use, thereby introducing into the collation a disproportionate share of the better school reports, and, to that extent, raising the average.

An inspection of table No. 24 will show that school attendance, practically, begins at six years of age, the ratio between the product obtained by multiplying the number of children of that age by the number of days attendance and a similar product for five years being 3.39. The two and one-half month's tuition given to nearly 7,000 children of five years, being of little practical moment as a part of an education. The fullest attendance is between the years of 7 and 12, inclusive, a period of six years, after which the decline is quite regular and rapid. The most regular attendance is found during the 10th and 11th years. The falling off in regularity when children have completed their 11th year would indicate that even at this early age the services of children are occasionally considered more valuable or necessary than their education. The general average for the state is found, not by adding the age averages, and dividing by their number, but by dividing the total number of days school attendance by the total number of pupils attending.

The average attendance during the year for 187,420 pupils in city and country schools is 83 days, nearly. This average is raised from 71.18 for all country schools by including in the above number of children 36,289 in attendance upon city schools. Three and one-half months, then, may be taken as the average attendance of children on the rolls in country districts. It must be borne in mind, however, that the worst features of these schools are not as apparent by the contempla-

tion of this average as by a knowledge of the fact that so many fall below it.

Reducing to ratios the number of those who, on the average, fall below the general average in day's attendance, we find that in the state at large the percentage is 35.8 of the whole, in the counties 43.5 per cent., and in the cities 52.17 per cent.; showing a lesser number, proportionately, of those who fail to reach the average in the country, where the general average is low, than in the cities where it is high.

The number of those in the cities who, on the average, fall below the country and state average, is inconsiderable. Care should be taken, however, that a misconception does not arise with reference to this showing—an idea that this number represents the total of those in the cities who fall below the country and state averages. Inasmuch as averages are deduced for each age, there is, of course, included in the number of city pupils corresponding to each age average a certain proportion who fall below the general averages for city, country, and state. This number will be ascertained and given further on.

By referring to table No. 28, it will be seen that the lowest average for any city is higher than the highest average for any county. Even then we must consider that the high average for St. Louis county is due to the fact that most of the schools outside of Duluth are in the city of Tower and village of Ely. The city of Wabasha, by the census of 1885, falls just short of 3,000 population set as the limit of our inquiry for city schools. It is therefore included with the country, thus tending to raise the average high. The tendency towards regularity of attendance in the older settled counties is quite marked, the ratio advancing from 55.53 in Polk, to 95.75 in Ramsey county.

It is worthy of note that many of the smaller cities show a higher percentage of regularity than the larger ones. New Ulm stands far in the lead. The population of New Ulm being predominantly German, may there not be a relation between this educational showing in Minnesota, and the school going habits of the German people fixed upon them by the excellent school system and compulsory attendance laws of their native country?

The reader must discard the notion that we are dealing with totals. It is well nigh impossible to secure accurate totals in any line of investigation. We are establishing ratios for the whole upon the strength of a given number of representative cases. We believe it necessary to repeat this so as to relieve the reader's mind from all misapprehension upon this point.

SCHOOL ATTENDANCE.

TABLE 29.

Table Showing the Number of Pupils Enrolled in District and City Schools who Attend one Month and Under, Two Months and Under, Three Months and Under, and the Percentage of Such Attendance to Enrollment.

KIND OF SCHOOL.	Number of Pupils Reported.	Number Who Attend 20 Days and Under.	Number Who Attend 40 Days and Under.	Number Who Attend 60 Days and Under.	Percentage of Those Enrolled Who Attend 20 Days and Under.	Percentage of Those Enrolled Who Attend 40 Days and Under.	Percentage of Those Enrolled Who Attend 60 Days and Under.
District.....	151,192	17,796	41,001	70,629	.117	.275	.467
City.....	36,289	2,131	4,100	6,629	.058	.114	.182
Total.....	187,481	19,927	45,861	77,258	.106	.244	.412

Applying these ratios to the whole number of pupils reported as enrolled in city and district schools, according to the advance sheets of the State Superintendent's report for 1889, we find the attendance to be as follows:

Number of those who attend one month and less.....	29,024
“ “ “ two “ “	66,810
“ “ “ three “ “	112,811

The number of pupils reported by Prof. Keihle as enrolled in city and district schools is 273,814. In the preliminary estimate which I made previous to commencing the investigation, I stated as a result of my inquiries, that it was safe to say that one-third of the children in this state were growing up with nothing but the shadow of an education; meaning thereby, an attendance of less than three months in each year. The above calculations show that the statement was wholly within bounds.

It was hoped that the eleventh census of the population of the state by ages would be available before this chapter went to press, so that a calculation could be made to show the probable number of children who did not attend school at all during the year 1890. Enough has been revealed, however, to show that the school attendance in this state is not what it should be.

At a meeting of the Minneapolis Trades and Labor Assembly, about a year ago, a committee was appointed to co-operate with the Associated Charities and the Board of Education, in trying to ascertain, if possible, the number of children not in attendance upon any school. The list thus secured has been kindly loaned us by Superintendent Bradley of the public schools, and, though somewhat incomplete, it contains 493 names. It should

be stated, however, that such showings tell little about our educational status as compared with the showings of irregular attendance by those who have at some time been enrolled.

As to the remedy for this condition of things we shall find great variety of opinion. One fact is patent: That whatever the remedy may be, we cannot afford to bring children up in ignorance. I will go even further, and say that we cannot afford to permit them to grow up in ignorance. While it is true that compulsory laws have not accomplished all that their projectors hoped they would, it is equally true that in those cases where they have failed the failure has been due to bungling legislation more than to any defect in the principle of compulsion itself. It is true, no doubt, that some parents are too poor to send their children to school; but this should not excuse those who are not too poor, but rather, too low in the moral scale, a number by no means inconsiderable.

For this reason, I believe that a wisely drawn compulsory law would be a real benefit to the children of this state. It would do no harm to those who would send their children anyhow, while it would act as a spur to those who permit their children to decide for themselves whether they will attend or not, a discretionary power wholly inappropriate to rest in a child. Enough has been said in preceding parts of this chapter, ample experience cited, to show the probable effects of such a measure. It will not work perfectly at first. It must be improved and developed from time to time, as experience suggests. It cannot reach all children without being made too arbitrary; but it will, in time, bring into school thousands of children who should be in attendance and are not, and thereby amply repay the cost and trouble of its execution.

CHAPTER II.

CHILD LABOR.

As England was the country to which the founders of the Republic looked for wisdom to guide them in forming a new government, so is England, more than any other nation, the country to which we must look for precedents to guide us in the development of much of our practical legislation and industrial regulations. Her industrial system is older than ours; it was highly developed when ours was in its infancy. The evils which we are beginning to realize in our system were prevalent in England at the beginning of the present century. It was found necessary, despite all theories of non-interference by the state, to positively regulate certain relations of employer and employe in order that the employer might not degenerate into a brute or an imbecile. The methods of this regulation, like all good things, had to be developed by experience; and although it has taken more than the space of two generations to do it, the bulk of the factory population of England seems at last to have secured a degree of protection under which it is at least possible to avoid physical and mental degeneration. The study of the legislation through which such results have been attained is more instructive to Americans than the study of similar legislation in any other country, for in many respects the political traditions of the English people and their governmental system resembles our own. It is not a system of petrific absolutism, as in Russia, rigid paternalism, as in Prussia, or spasmodic republicanism, as in France. The people resemble ourselves in their jealousy of governmental extension and love of individual initiative; and, for this reason, many things that have been found salutary there, may, with reasonable modifications, be applied in this country.

We, therefore, present, from the "Report on the Factory System of the United States," by Hon. Carroll D. Wright, a short review of English legislation, with a synopsis of the Factory Act of 1878, as far as it applies to textile factories.

FACTORY LEGISLATION.

The factory system has stamped itself most emphatically upon the written law of all countries where it has taken root, as well as upon the social and moral laws which lie at the bottom of the forces which make written law what it is. With the exception, however, of laws relating to the purely commercial features of the factory system, the legislation which that system has produced has been stimulated by the evils which apparently have grown with it.

In a preceding chapter I have said that as a moral force and as a system the factory system of industry is superior to the domestic system, which it supplanted. Now, in order to consider intelligently the influence of this modern industrial system upon legislation, its evils must be brought into especial prominence, for in showing the effect of the system upon law its evils only are involved, not its merits as compared with the domestic system. It is the worst phases of society which gauge the legislation requisite for its protection. Laws other than those for the regulation of trade and the protection of rights and their definition are made for the restraint of the evil disposed, and do not disturb those whose motives and actions are right. We have a way of judging society by its worst products. This is very true of writers upon social topics; they are apt to select the worst by which to judge the whole. Parliamentary and legislative committees, raised with a view to passing or killing a factory measure and working for or against certain interests, have repeatedly adopted the plan of judging all by a few cases.

The social battles which men have fought have been among the severest waged for human rights, and they mark eras in social conditions as clearly as do field contests, in which more human lives have been lost, perhaps, but in which no greater human interests have been involved. Among these social contests may be classed the efforts of humane men to correct so-called factory evils.

At the time of the institution of the factory system there were but few laws relating to master and man upon the statute books of England; those which did exist bore mostly upon criminal matters. One law was in force which had been considered by many an obstruction to advancement in the mechanic arts, but which under the factory system was to become the only point upon which, under prevailing sentiments, labor legislation could turn. This law was known as the "apprentice act," and was passed in 1562, during the reign of Elizabeth. It is to be found in 5 Elizabeth, c. 4. This law provided that no one should work in certain trades as journeyman until after an apprenticeship of seven years. It also instituted the custom of apprenticing pauper children by parish officers. Under the protection of law the worst practices grew up. The act referred to allowed apprentices to be worked from 5 a. m. to between 7 and 8 at night from March to September, and from September to March, as the law expresses it, "from the spring of the day" till night closed in.

When the first cotton factories were erected in England, and before the steam-engine was sufficiently perfected to enable mills to be run by it, Derbyshire, Nottinghamshire, and Lancashire were selected as the best localities, because they abounded in water-courses sufficient for the supply of power. These factories became so numerous that the supply of children from their respective neighborhoods was soon found to fall far short of the demand. The reverse of this condition prevailed in the southern agricultural counties, where general misery existed on every side, and unprincipled poor-law guardians, anxious to rid their parishes as speedily as possible of pauper children, showed great eagerness to meet the requirements of large industrial establishments for cheap labor. Children were therefore transferred in large numbers to the north, where they were housed in pent-up buildings adjoining the factories, and kept to long hours of labor. The work was carried on day and night without intermission, so that the beds were said never to have become cold, inasmuch as one batch of children rested while the other went to the looms, only half the requisite number of beds being provided for all. Notwithstanding the evil disposition of poor-law guardians and of grasping employers, there is no doubt that the condition of these children was better under employment in

mechanical industries than under a state of pauperism in agricultural districts. This, however, was no reason for the abuse of the innocents.

Another element entered into the causes which led to the employment of pauper children. When the first factories went into operation, it soon became apparent that there was in the minds of the people considerable repugnance to the employment of children in them; in fact, there was strong antipathy to factories themselves because they were innovations. The native domestic laborers considered themselves amply able to provide for their children, and so rejected the offers of liberal wages made by the mill-owners. For a long period it was by the working people themselves considered to be disgraceful for any father to allow his child to enter the factory; in the homely words of that day, that parent made himself "the town's talk," and the unfortunate girl so given up by her parents, in after life, found the door of household employment closed against her "because she had been a factory girl." It was not until the condition of portions of the working classes had been reduced that it became the custom with workmen to eke out the means of their subsistence by sending their children to the mills. Until that sad custom prevailed the factories in England were worked by "stranger children," gathered together from workhouses. Under the operation of the old apprentice system, parish apprentices were sent, without remorse or inquiry, from the workhouses in England and the public charities of Scotland to the factories, to be "used up" as the "cheapest raw material in the market." This reprehensible method was systematically practiced; the mill-owners communicated with the overseers of the poor for negotiations for supply. The general treatment of these apprentices depended entirely upon the will of their masters, and while some of the latter could not bury the natural feelings of sympathy for the unfortunate, and did all in their power to relieve want and suffering, the majority, in the infancy of the new system, did not comprehend the effects ill-treatment of one generation might have upon the succeeding.

The introduction of steam as a motor in mills removed the necessity of erecting factories upon streams, and allowed owners to build in or near populous towns, from which the needed supply of help could always be obtained. These towns were exempt from the general operations of the apprentice act, except as to parish apprentices.

Now for the first time appeared some of the consequences of congregated labor under the influence of simply natural forces without the restrictions of positive legislation. A whole generation of operatives was growing up under conditions of comparative physical degeneracy, of mental ignorance, and of moral corruption. The great questions began to be asked, Has the nation any right to interfere? Shall society suffer that individuals may profit? Shall the next and succeeding generations be weakened morally and intellectually, that estates may be enlarged?

These questions forced themselves upon the public mind, and the fact that pauper apprentices might be better off under such apprenticeship than in the workhouse could have no weight under the influence of the great religious and moral waves which swept over England in the last quarter of the last century. The truth began to dawn that in factories as in nations or in families, if those who rule do so through the power of fear and the capacity to punish arbitrarily, the result is a poor, cringing operative population, or poor, cringing subjects.

The first man to ask such questions of parliament was Sir Robert Peel, in 1802. Sir Robert was a master manufacturer, to whom the new system had brought wealth, and power, and station, and, to his immortal honor, he sought to remedy the evils which he knew, from his own personal experience, had grown with the factory system. In 1802 he introduced a bill the object of which was to interfere by law with the natural tendencies of unrestricted competition in the labor of human beings. As the system which Peel's bill sought to regulate was from its infancy crude in its workings, so the legislation sought was crude and had no very far-reaching provisions; yet it aimed at the weakness of the new industrial order, and would, if successful, establish a principle in law which should influence the enactments of the legislatures of the world.

The friends of the new theory did not go beyond the regulation of the labor of parish apprentices. The bill was entitled "An act for the preservation of the health and morals of apprentices and others employed in cotton and other mills, and in cotton and other factories." Says the duke of Argyll:

It is characteristic of the slow progress of new ideas in the English mind, and of its strong instinct to adopt no measure which does not stand in some clear relation to pre-existing laws, that Sir Robert Peel's bill was limited strictly to the regulation of the labor of apprentices; children and young persons who were not apprentices might be subject to the same evils, but for them no remedy was asked or provided.

Such is the power of precedent, which is too often only another term for tradition. "The notion," as to Peel's measure, was—

That, as apprentices were already under statutory provisions, and were subjects of a legal contract, it was permissible that their hours of labor should be regulated by positive enactment. But the parliament, which was familiar with restrictions on the products of labor, and with restrictions of monopoly on labor itself, which restrictions were for the purpose of securing supposed economic benefits, would not listen to any proposal to regulate "free" labor for the purpose of avoiding even the most frightful moral evils. These evils * * * were incident to the personal freedom of employers and employed. In the case of apprentices, however, it was conceded that restriction might be tolerated. And so through this narrow door the first of the factory acts was passed—

And the system, by unmistakable signs, stamped its influence upon the legislation of England. The conduct of men, both individually and collectively, as influenced by the natural course of events, is illustrated in the clearest light by the history of the first factory legislation.

In the first place the principle which was deemed objectionable became prominent in factory legislation, for the old law of 1562, the apprentice act, heretofore an obstacle, became the very precedent the law-makers of England must have before they could consent to protect human rights. Again, if the steam-engine had been invented earlier—if mills had not at first been erected upon streams away from the centers of population, thereby enabling poor-law guardians to reduce the pauperism of agricultural districts—it would be impossible to say how long the initiatory evils of the factory system would have been allowed to fester and impair the physical and moral well-being of a growing class, without even an assertion of the right of the nation to check the evils. The act of Sir Robert Peel, 42 and 43 Geo. III., cap. 73, while of no great practical value to the operatives, was of the greatest value to the world, for it made the assertion, which has never been retracted, that the nation did have the right to check not only open evils, but those which grow individually through the nature of employment.

This first factory legislation act of 1802 simply dealt with the unregulated employment of apprentices. By its provisions the employer was compelled to clothe his apprentices, whose work was now limited to twelve hours a day. Night work was entirely prohibited, with some minor exceptions, and every apprentice was to receive daily instruction during the first four years of his time, school attendance to be reckoned as working time. Religious instruction on Sundays was distinctly regulated, and some useful sanitary clauses were inserted in the law. Although this law was well digested, it proved inoperative in great measure, through want of the necessary provisions for carrying it into effect, the still undetermined state of the new manufacturing system, and the revolution wrought by the adaptation of steam to manufacturing purposes. This adaptation, as I have said, removed the necessity of erecting factories upon water-courses, and supplied a great desideratum, in many respects, by allowing their establishment in populous towns, whose needy inhabitants afforded a sufficient number of employes to satisfy the first requirements of manufacturers. Those children, therefore, whose parents resided in the neighborhood of such factories, were admitted into them without participating in the protection provided in the act of 1802, because such children were not apprenticed under the act of 5 Elizabeth, or under the apprentice act.

The question of repealing this latter act now began to be agitated. Numerous petitions were sent to parliament for its repeal, both by masters and those who saw that if the apprentice act should be repealed a law must be passed that would protect all children at work in the factories; the

masters saw that the repeal of the act of 5 Elizabeth rendered Peel's act of 1802 inoperative.

In 1814 the apprentice act was substantially repealed, and in 1815 Sir Robert Peel came back to parliament and told the country that the former act, that of 1802, "had become useless, that apprentices had been given up, but that the same exhausting conditions, from which parliament had intended to relieve apprentices, was the lot of thousands and thousands of the children of the free poor." In the following year (1816,) pressing upon the house of commons a new measure of restriction, he added, that unless the legislature extended to these children the same protection which it had intended to afford to the apprentice class it had come to this, that the great mechanical inventions which were the glory of the age would be a curse rather than a blessing to the country. The author of the *Reign of Law*, in commenting upon the early efforts in favor of the restriction of labor by legislation, says:

Thus began the great debate which in principle may be said to be not ended yet; the debate, how far it is legitimate or wise in positive institution to interfere for moral ends with the freedom of the individual will? Cobbett denounced the opposition to restrictive measures as a contest of "mammon against mercy." No doubt personal interests were strong in the forming of opinion, and some indignation was natural against those who seemed to regard the absolute neglect of a whole generation, and the total abandonment of them to the debasing effects of excessive toil, as nothing compared with the slightest check on the accumulations of the warehouse. But the opposition was not due in the main to selfishness or indifference. False intellectual conceptions, false views, both of principle and of fact, were its real foundation. Some of the ablest men in parliament, who were wholly unaffected by any bias of personal interest, declared that nothing would induce them to interfere with the labor which they called "free." Had not the working classes a right to employ their children as they pleased? Who were better able to judge than fathers and mothers of the capacities of their children? Why interfere for the protection of those who already had the best and most natural of all protectors? * * * Nor were there wanting arguments, founded on the influence of natural laws, against any attempt on the part of legislative authority to interfere with the "freedom" of individual will. The competition between the possessors of capital was a competition not confined to England. It was also an international competition. In Belgium, especially, and in other countries, there was the same rush along the new paths of industry. If the children's hours of labor were curtailed, it would involve of necessity a curtailment also of the adult labor, which would not be a valuable when left alone. This would be a curtailment of the working time of the whole mill, and this would involve a corresponding reduction of the produce. No similar reduction would arise in foreign mills. In competition with them the margin of profit was already small. The diminution of produce from restricted labor would destroy that margin, capital would be driven to countries where labor was still free from such restrictions, and the result would be more fatal to the interests of the working classes of the English towns than any of the results arising from the existing hours of labor. All these consequences were represented as inevitable. They must arise out of the operation of invariable laws. Such were the arguments used in every variety of form, and supported by every kind of statistical detail, by which the first factory acts were opposed.

I have been quite explicit in stating these arguments, because in all subsequent movements they have been repeated again and again, and may be heard in debate in every session of legislatures in this country every time any proposition is made to protect labor.

The abolition of the apprentice system, by which the act of 1802 became useless, stimulated Peel and the friends of factory legislation to greater efforts, and in 1816 parliament instituted the first government inquiry into the condition of the factory population. It was not, however, till 1819 that a new law (59 Geo. III, c.66) was enacted. This law established the right of the nation to limit the age at which children might be admitted to the factories. No child under nine years could be admitted, and the hours of labor were limited to twelve per day for children between nine and sixteen. This new law, unlike that of 1802, was applied to cotton-mills only, while the first applied to both cotton and woolen factories. While provisions of law relating to the education of factory children were to be commended, they were nevertheless what might be termed curiosities of legislation.

The greatest poverty and ignorance prevailed in the agricultural and mining districts of England, and after the reports of the poor-laws commissioners had exposed the demoralizing results of the want of education in the agricultural hamlets it was really a piece of singular effrontery on the part of the legislators to accuse the manufacturers of being the main authors of the miserable state of affairs found among the tillers of the soil, and to require the employers of factory labor, under heavy penalties,

to be responsible for the education of all juvenile operatives whom they employed. Until a recent date law has insisted upon the education of factory children only, so far as England is concerned, and, whether from good or bad motives in the framers of such laws, the factory system has been made the central point upon which popular education in England has turned, and this accounts in a large degree for the superior intelligence of the factory population of that country when compared with those engaged in agriculture. In this very direction the influence of the new order of industry upon legislation is clearly marked.

From 1816 to the present time there has been no cessation in the attempts to regulate by law some of the conditions of labor. All the wonderful reports from parliamentary committees make in themselves a vast library of information and misinformation which cannot be briefed in this volume, and, in fact, it is not essential; for, as I have said, every legislative contest took on the same general features of attack and defense. It was not till 1847 that the friends of labor succeeded in passing a ten-hour law. After 1847 the provisions of the English factory acts were extended first to one industry and then to another, until now they comprehend many of the leading lines of production.

The principles involved in the earlier legislation were made to apply to the working of mines, in which great abuses in the employment of women and young children had become the rule. The amelioration of the horrid condition of the workers in the mines was the result of the influence of the factory system upon law. The care of the pauper children of England became the subject of the deepest solicitude from the same influence. The same is true of the education of the masses. The legislative provisions relative to chimney-sweepers and various special employments are all due to the same influence. The continental governments, of course, have been obliged to make regulations covering kindred subjects, but rarely have they kept pace with English legislation. America has enacted progressive laws so far as the condition of factory workers has warranted. It should be remembered that the abuses which crept into the system in England never existed in this country in any such degree as we know they did in the old country. Yet there are few states in America where manufactures predominate or hold an important position in which law has not stepped in and restricted either the hours of labor or the conditions of labor, and insisted upon the education of factory children, although the laws are usually silent as to children of agricultural laborers.

It is not wholly in the passage of purely factory acts that the factory system has influenced the legislation of the world. England may have suffered temporarily from the effects of some of her factory legislation, and the recent reduction of the hours of labor to nine and one-half per day, less than in any other country, has had the effect of placing her works at a disadvantage; but in the long run England will be the gainer on account of all the work she has done in the way of legislative restrictions upon labor. In this she has changed her whole policy. Formerly trade must be restricted and labor allowed to demoralize itself under the specious plea of being free; now trade must be free and labor restricted in the interests of society, which means in the interest of good morals. The factory system has not only wrought this change, but has compelled the economists to recognize the distinction between commodities and services. There has been greater and greater freedom of contract in respect to commodities, but the contracts which involve labor have come more and more completely under the authority and supervision of the state.

Seventy-five years ago scarcely a single law existed in any country for regulating the contract for services in the interest of the laboring classes. At the same time the contract for commodities was everywhere subject to minute and incessant regulation.

Factory legislation in England, as elsewhere, has had for its chief object the regulation of the labor of children and women; but its scope has constantly increased by successive and progressive amendments until they have attempted to secure the physical and moral well-being of the workman in all trades, and to give him every condition of salubrity and of personal safety in the workshops.

The excellent effect of factory legislation has been made manifest

throughout the whole of Great Britain. "Physically the factory child can bear fair comparison with the child brought up in the fields," and intellectually progress is far greater with the former than with the latter. Public opinion, struck by these results, has demanded the extension of protective measures for children to every kind of industrial labor, until parliament has brought under the influence of these laws the most powerful industries.

To carry the factory regulations and those relative to schooling into effect England has an efficient corps of factory inspectors. The manufacturers of England are unanimous in acknowledging that to the activity, to the sense of impartiality, displayed by these inspectors is due the fact that an entire application of the law has been possible without individual interests being thereby jeopardized to a very serious extent. It is also now freely admitted that factory legislation, wisely prepared, prudently applied, and ripened by experience, cannot be otherwise than productive of useful results nor do aught but exercise a salutary influence over the economical and moral conditions of labor. It is true that in a country where, in general, the moral condition of the working classes has presented the saddest of pictures such legislation has wrought an improvement in the morals and exerted a notable influence on the health and habits of the working classes. The field is still large, and all the virtues of public sentiment will be needed to influence wise regulations. Such legislation has also bestowed substantial advantages upon industry itself, since the work, being performed by cleverer hands, gains both in quality and in rapidity of execution.

In no other country is there so elaborate a code of factory laws as the "British factory and workshop act" of 1878, 41 Vict., chap. 16, it being an act consolidating all the factory acts since Sir Robert Peel's act of 1802, "besides embracing, with some changes, the provisions of the Public Health Act of 1875, and the Elementary Education Act of 1876."^{*}

It was prepared with the greatest care and fullness, and furnishes an admirable code for factory regulation. Never before had the paternality of government been so strongly declared, and never before had the right of the workman to demand protection by the state against their employers been so distinctly asserted.

GREAT BRITAIN.—The following is an analysis of the Factory and Workshop Act of 1878, so far as it applies to textile factories:

SANITARY PROVISIONS.

Every factory to be kept in a cleanly state, free from effluvia, etc., to be well ventilated, not to be over-crowded.

If an inspector observe a nuisance, he must report to sanitary authority. Inspector authorized to take medical officer of health, etc., with him into the factory.

Every factory to be limewashed once in fourteen months, unless painted in oil once in seven years, when it must be washed once every fourteen months.

The secretary of state may exempt from this provision any class of factory, or part thereof, not requiring it for the purpose of cleanliness.

A child, young person, or woman not to be employed in wet-spinning, unless means are taken to prevent their being wetted, and to prevent the escape of steam.

SAFETY AND ACCIDENTS.

Hoist or teagle, steam-engine, water-wheel, and mill gearing to be securely fenced.

Inspector may give notice of machinery, or of a vat or pan containing

^{*}W. F. Willoughby, monograph on child labor; American Economic Association, prize essay, 1890.

hot liquid or metal considered to be dangerous, or grind-stone fixed in a faulty manner. Provisions made for submitting question to arbitration.

Employment of a child in cleaning machinery in motion, and of a child, young person or woman in cleaning mill gearing in motion, prohibited.

Employment between fixed and traversing parts of a self-acting machine forbidden.

Notice of accidents to be sent to the inspector and certifying surgeon: if fatal; if caused by machinery moved by power, or vat or pan, and so as to prevent the injured person returning to his work for forty-eight hours after the accident, the certifying surgeon to report the same to the inspector.

If any person suffer bodily injury from neglect of fence, machinery, etc., required to be fenced, the occupier is liable to a penalty of £100, which may be applied by the secretary of state for the benefit of the injured person.

EMPLOYMENT AND MEAL HOURS.

A child, young person, or woman not to be employed except during period of employment stated in notice.

YOUNG PERSONS AND WOMEN.

The period of employment, inclusive of meal hours, shall be either between 6 a. m. and 6 p. m., or between 7 a. m. and 7 p. m.

On Saturday, when work commences at 6 a. m., if not less than one hour be given for meals, manufacturing processes must cease at 1 p. m., and all other work at 1:30 p. m. If less than one hour be given for meals, manufacturing processes must cease at 12:30 p. m. and all other work at 1 p. m.

On Saturday, when work commences at 7 a. m., manufacturing processes must cease at 1:30 p. m. and all other work at 2 p. m.

If the occupier of a factory be of the Jewish religion, and close his factory on Saturday until sunset, he can employ young persons and women until 9 p. m. on Saturday.

All young persons and women must have two hours for meals during the period of employment, of which one hour must be given before 3 p. m.

On Saturday at least half an hour must be given.

A young person or woman not to be employed for more than four hours and a half without an interval of half an hour.

CHILDREN.

Children are to be employed either morning or afternoon, or on alternate days.

The period of employment for a child begins and ends the same as for a young person.

Children in the morning set must cease work at the dinner hour, but not later than 1 p. m.

Children in the afternoon set begin at the end of the dinner time, but not earlier than 1 p. m.

Children may work on Saturdays as young persons.

A child shall not be employed on Saturday in two successive weeks, nor on Saturday in any week if on any other day in the week he has worked more than five hours and a half.

Children working on alternate days may work as young persons, but must not work on two successive days, or on the same days in two successive weeks.

When a child is employed as a young person, he must have the same intervals for meals as a young person.

A child not to be employed more than four hours and a half without an interval of half an hour.

HOLIDAYS.

Every child, young person, and woman shall be allowed the following holidays:

The whole of Christmas day and the whole of Good Friday; or, instead

of Good Friday, the next public holiday under the holidays extension act, 1875.

Notice must be given of such holidays, and be fixed up in the factory.

A half-holiday shall comprise one-half of the period of employment on some other day than Saturday.

A child, young person, or woman shall not be employed on any day or part of a day set apart for a holiday.

In Scotland, instead of Christmas day and Good Friday, two days shall be set apart for holidays, separated by an interval of three months, one of which shall be the day set apart for the Sacramental Fast of the parish, or some other day substituted therefor by the occupier.

Eight half holidays, or equivalent whole holidays, of which half shall be given between 15th March and 1st October following.

In the factory of a Jew, in which all the persons employed are Jews, two bank holidays may be given instead of Christmas day and Good Friday.

In Ireland the 17th of March must be given, and will reckon as two of the eight half-holidays.

EDUCATION OF CHILDREN.

The parent of a child shall cause such child to attend a recognized efficient school, which may be selected by himself.

A child, when employed in a morning or afternoon set, shall attend school for one school attendance on each day of every week during any part of which he may be employed.

A child when employed on alternate days must attend school for two school attendances on each alternate day.

Attendance at school must be between 8 a. m. and 6 p. m.

A child is not required to attend school on Saturdays, or on any holiday or half-holiday in pursuance of this act.

Non-attendance caused from sickness, etc.

When there is not a certified school within two miles of the child's residence, the child may attend some other school temporarily approved by an inspector.

A child who has failed to attend school regularly cannot be employed the following week unless the deficient attendances be made up.

The occupier shall obtain certificates from a schoolmaster of the school attendance of the children employed in his factory, and keep such certificates for two months and produce the same to the inspector.

The school managers may apply in writing to an occupier to pay the school fees, not exceeding 3d. per week, or one-twelfth of the wages of a child, which the occupier may deduct from the wages of the child.

When a child of thirteen has obtained a certificate of proficiency either of having passed the prescribed standard, or of having attended school the prescribed number of attendances, he is deemed to be a young person.

CERTIFICATES OF FITNESS FOR EMPLOYMENT.

A person under sixteen shall not be employed for more than seven, or, if the certifying surgeon resides more than three miles from the factory, thirteen working days, unless the occupier has obtained from the certifying surgeon a certificate in the prescribed form of the fitness of employment of such person.

A certificate of fitness shall not be given unless a certificate of birth be produced, or other proof of real age.

When an inspector considers any person under sixteen unfit to work, he may give notice to the occupiers, and the person shall not be employed more than seven days, unless certified by the certifying surgeon to be fit for work.

An inspector may annul a certificate of a certifying surgeon if certificate of age of the person named therein was not produced, if he think the person under the age named in the certificate.

When a child becomes a young person, a fresh certificate of fitness must be obtained.

A certificate of fitness shall only be granted on personal examination.

The same certificate of fitness may be valid for all the factories in the occupation of the same occupier in the district of the same certifying surgeon.

A certifying surgeon shall examine persons only at the factory where such persons are employed, unless the number of children and young persons is less than five, or unless specially allowed by an inspector.

Certifying surgeons to be appointed by an inspector.

Fees to be paid to the certifying surgeon.

Where there is not a certifying surgeon within three miles, the poor-law medical officer to act as certifying surgeon.

REGULATIONS AS TO MEAL TIMES.

All children, young persons, and women to have the times allowed for meals at the same periods of the day.

A child, young person, or woman is not allowed to remain in any room where a manufacturing process is being carried on, or to be employed during a meal time.

Notice of meal hours to be fixed up—of hours of work, etc.

PROHIBITIONS OF EMPLOYMENT.

A child shall not be employed under the age of ten years.

A child, young person, or woman shall not be employed on Sunday; but if the occupier be of the Jewish religion, and close his factory on Saturday, both before and after sunset, a Jewish young person or woman may be employed on Sunday the same as if Sunday were Saturday.

OVERTIME AND NIGHT-WORK.

Male young persons of sixteen years of age may be employed in lace factories between 4 a. m. and 10 p. m., under certain conditions.

If the occupier be of the Jewish religion and keep his factory closed on Saturday, both before and after sunset, he may employ the young persons and women one hour on every other week day, but not before 6 a. m. or after 9 p. m.

Secretary of state may authorize employment of young persons and women to recover lost time in water-mills at the rate of one hour per day, for not exceeding ninety-six days in case of drought, and not exceeding forty-eight days in case of flood.

The secretary of state, where cleanliness, etc., is deficient, may, by order, direct the adoption of special means as a condition of the exceptional employment.

Where an exception has been authorized, and it is found to be injurious to health, the secretary of state may by order rescind such exception.

MISCELLANEOUS REGULATIONS.

Notice to be hung up of times of work and meals:—Abstract of act. Names of inspectors and certifying surgeons. Clock by which hours of work are regulated.

Notice of special exception to be hung up, and notice to be sent to inspector.

When working under special exception, same to be entered in a register.

Register of young persons under sixteen years of age to be kept, with details, as prescribed by the secretary of state. Extracts to be sent when required to the inspector.

Hours of work to be regulated by a public clock.

Any person in a factory while machinery is in motion deemed to be employed, unless the contrary be proved.

Occupier of factory to send notice to inspector within one month of commencing to work a factory.

Inspectors of weights and measures authorized to examine weights and measures used for checking wages, etc.

Most of the states of the American Union have factory laws comprehending some parts, however scanty, of the British law of 1878. Very little could be learned by reading all these laws. Massachusetts being the most complete, we print the law for that state, as a good basis of reference for any measure contemplated in Minnesota.

Extracts from the public statutes of Massachusetts (as amended,) regulating the hours of labor, the employment of children, and providing for the inspection of factories and public buildings.

CHAPTER 74.

Of the Employment of Labor.

SECTION 1. Any person or corporation engaged in manufacturing, which requires from persons in his or its employ, under penalty of forfeiture of a part of the wages earned by them, a notice of intention to leave such employ, shall be liable to the payment of a like forfeiture if he or it discharges without similar notice a person in such employ, except for incapacity or misconduct, unless in case of a general suspension of labor in his or its shop or factory.

SEC. 2. Whoever, by intimidation or force, prevents or seeks to prevent, a person from entering into or continuing in the employment of a person or corporation shall be punished by fine of not more than one hundred dollars.

SEC. 3. No person or corporation shall, by a special contract with persons in his or its employ, exempt himself or itself from any liability which he or it might otherwise be under to such persons for injuries suffered by them in their employment, and which result from the employer's own negligence, or from the negligence of other persons in his or its employ.

*SEC. 4. No minor under eighteen years of age and no woman shall be employed in laboring in any manufacturing or mechanical establishment more than ten hours in any one day, except as hereinafter provided in this section, or when a different apportionment of the hours of labor is made for the sole purpose of making a shorter day's work for one day of the week; and in no case shall the hours of labor exceed sixty in a week. Every employer shall post in a conspicuous place in every room where such persons are employed a printed notice stating the number of hours' work required of them on each day of the week, the hours of commencing and stopping such work, and the hours when the time or times allowed for dinner or for other meals begins and ends, or in the case of establishments exempted from the provisions of chapter two hundred and fifteen of the acts of the year eighteen hundred and eighty-seven, the time, if any, allowed for dinner and for other meals; the printed form of such notice shall be furnished by the chief of the district police, and shall be approved by the attorney-general; and the employment of any such person for a longer time in any day than that so stated shall be deemed a violation of this section, unless it appears that such employment is to make up for time lost on some previous day of the same week in consequence of the stopping of machinery upon which such person was employed or dependent for employment. But no stopping of machinery for a shorter continuous time than thirty minutes shall authorize such over time employment, nor shall any such stopping authorize such employment unless or until a written report of the day and hour of its occurrence, with its duration, is sent to the chief of the district police or to the inspector of factories for the district. Any person who makes a false report of such stopping of machinery shall be punished by fine of not less than fifty nor more than one hundred dollars. If any minor, under eighteen years of age, or any woman, shall, without the orders, consent, or knowledge of the employer, or of any superintendent, overseer, or other agent of the employer, labor in a manufacturing or mechanical establishment during any part of any time allowed for dinner or for

*1887, chapter 280.

other meals in such establishment, according to the notice above mentioned, and if a copy of such notice was posted in a conspicuous place in the room where such labor took place, together with a rule of the establishment forbidding such minor or woman to labor during such time, then neither the employer, nor any superintendent, overseer, or other agent of the employer, shall be held responsible for such employment.

SEC. 5. Whoever, either for himself, or as superintendent, overseer, or other agent of another, employs or has in his employment any person in violation of the provisions of the preceding section, and every parent or guardian who permits any minor to be so employed, shall be punished by a fine of not less than fifty nor more than one hundred dollars for each offense. Said penalty shall extend to corporations. A certificate of the age of a minor, made by him and by his parent or guardian at the time of his employment in any manufacturing establishment, shall be conclusive evidence of his age upon any trial for the violation of the preceding section.

[ACTS OF 1890.]

CHAPTER 183.

AN ACT to Prohibit the Employment of Women and Minors in Manufacturing Establishments between the Hours of Ten O'clock at Night and Six O'clock in the Morning.

SECTION 1. No corporation or manufacturing establishment in this Commonwealth shall employ any woman or minor in any capacity for the purpose of manufacturing, between the hours of ten o'clock at night and six o'clock in the morning, under the penalty of not less than twenty nor more than fifty dollars for each and every offense.

SEC. 2. This act shall take effect on the first day of July in the year eighteen hundred and ninety-one.

[ACTS OF 1884.]

CHAPTER 275.

AN ACT relating to the Employment of Minors in Mercantile Establishments.

SECTION 1. No minor under eighteen years of age shall be employed in laboring in any mercantile establishment more than sixty hours in any one week.

SEC. 2. Whoever, either for himself, or as superintendent, overseer, or other agent for another, employs or has in his employment any person in violation of the provisions of the preceding section, or who fails to post the notice required in section third, and any parent or guardian who permits any minor to be so employed, shall be punished by a fine of not less than fifty nor more than one hundred dollars for each offense. Said penalty shall extend to corporations. A certificate of age of a minor, made and sworn to by him and by his parent or guardian at the time of his employment in a mercantile establishment, shall be *prima facie* evidence of his age in any trial for a violation of the preceding section.

SEC. 3. Every employer shall post in one or more conspicuous places where such persons are employed a printed notice, stating the number of hours' work required of them, not exceeding ten hours in any one day, on each day of the week; and the employment of any such person for a longer time in any day than that so stated shall be deemed a violation of this act, unless it appears that such employment is to make up for time lost on some previous day of the same week.

[ACTS OF 1887.]

CHAPTER 121.

AN ACT to prohibit the Employment of Children in cleaning Dangerous Machinery.

SECTION 1. No child under the age of fourteen years shall be permitted to clean any part of the machinery in a factory while such part is in motion by the aid of steam, water, or other mechanical power, or to

clean any part of such machinery that is in dangerous proximity to such moving part.

SEC. 2. Whoever, either for himself or as superintendent, overseer, or other agent of another, violates the provisions of the preceding section shall be punished by a fine of not less than fifty nor more than one hundred dollars for each offense.

[ACTS OF 1882.]

CHAPTER 150.

AN ACT for the Preservation of the Health of Females employed in Manufacturing, Mechanical and Mercantile Establishments.

SECTION 1. Every person or corporation employing females in any manufacturing, mechanical, or mercantile establishment in this Commonwealth, shall provide suitable seats for the use of the females so employed, and shall permit the use of such seats by them when they are not necessarily engaged in the active duties for which they are employed.

SEC. 2. A person or corporation violating any of the provisions of this act shall be punished by a fine of not less than ten dollars nor more than thirty dollars for each offence.

[ACTS OF 1887.]

CHAPTER 433.

AN ACT relating to the Employment of Minors who cannot read and write in the English language.

[Section one was repealed by chapter three hundred and forty-eight, acts of eighteen hundred and eighty-eight.]

SEC. 2. Every person who regularly employs, or permits to be employed, a minor fourteen years of age, or over, who cannot read and write in the English language, providing such minor has been, since reaching the age of fourteen, for one year continuously a resident of a city or town in this Commonwealth wherein public evening schools are maintained, and is not a regular attendant of a day or evening school, shall for every such offense, forfeit not less than fifty nor more than one hundred dollars for the use of the evening schools of such city or town.

*SEC. 3. Whenever it appears that the labor of any minor who would be debarred from employment under section two of this act and amendments thereto, is necessary for the support of the family to which said minor belongs, or for his own support, the school committee of said city or town may, in the exercise of their discretion, issue a permit authorizing the employment of such minor within such time or times as they may fix; *provided*, such minor make application to said school committee, or some person duly authorized by said committee, for such a permit before the opening of the yearly session of the evening school of said city or town; and the provisions of said section two shall not apply to such minor so long as said permit is in force; *provided*, also, that if such minor has been prevented by sickness or injury from attending said evening school, as provided in said section two as amended by chapter one hundred and thirty-five of the acts of the year eighteen hundred and eighty-nine, the school committee shall issue to such minor the permit provided for in this section, upon the presentation of the following blank properly filled and signed:

To the School Committee of the.....
I hereby certify that I have attended.....from
.....to.....; that said.....was
sick or injured with.....; and that said.....was
not in suitable physical condition to attend evening school for the term
of.....days. (Signed).....

[Dated].....

.....
Attending Physician.

*1890, chap. 48.

The school committee of every city or town in this Commonwealth wherein public evening schools are maintained shall furnish blanks described in the foregoing paragraph upon application.

SEC. 4. Two weeks next before the opening of each term of the evening schools, the school committee shall, by posters posted in three or more public places of said city or town, give notice of the location of said schools, the date of the commencement of the term, the evenings of the week during which said schools shall be kept, the provisions of section two of this act as to forfeiture for non-compliance with said section, and such regulations as to attendance as they shall deem proper.

SEC. 5. Section seven of chapter forty-eight of the Public Statutes is hereby repealed.

SEC. 6. This act shall take effect on the first day of October in the year one thousand eight hundred and eighty-seven.

[ACTS OF 1887.]

CHAPTER 215.

To secure Uniform and Proper Meal Times for Children, Young Persons, and Women employed in Factories and Workshops.

SECTION 1. All children, young persons, and women, five or more in number, employed in the same factory, shall be allowed their meal time or meal times at the same time: *provided, however*, that any children, young persons, or women who begin work in such factory at a later hour in the morning than the other children, young persons, and women employed therein may be allowed their meal time or meal times at a different time, but no such children, young persons, or women shall be employed during their regular meal hour in tending the machines or doing the work of any other children, young persons, or women in addition to their own.

SEC. 2. No child, young person, or woman shall be employed in a factory, or workshop in which five or more children, young persons, and women are employed, for more than six hours at one time without an interval of at least half an hour for a meal: *provided, however*, that a child, young person, or woman may be so employed for not more than six and one-half hours at one time if such employment ends at an hour not later than one o'clock in the afternoon, and if such child, young person, or woman is then dismissed from the factory or workshop for the remainder of the day; or for not more than seven and one-half hours at one time if such child, young person, or woman is allowed sufficient opportunity for eating a lunch during the continuance of such employment, and if such employment ends at an hour not later than two o'clock in the afternoon, and such child, young person, or woman is then dismissed from the factory or workshop for the remainder of the day.

SEC. 3. This act shall not apply to iron works, glass works, paper mills, letter-press printing establishments, print works, bleaching works, or dyeing works; and the chief of the district police, where it is proved to his satisfaction that in any other class of factories or workshops it is necessary, by reason of the continuous nature of the process, or of special circumstances affecting such class, to exempt such class from the provisions of this act, and that such exemption can be made without injury to the health of the children, young persons, and women affected thereby, may, with the approval of the governor of the Commonwealth, issue a certificate granting such exemption, public notice whereof shall be given in the manner directed by said chief, without expense to the Commonwealth.

SEC. 4. The following expressions used in this act shall have the following meanings: The expression "iron works" means any, mill, forge, or other premises in or on which any process is carried on for converting iron into malleable iron, steel, or tin plate, or for otherwise making or converting steel. The expression "glass works" means any premises in which the manufacture of glass is carried on. The expression "paper mills" means any premises in which the manufacture of paper is carried on. The expression "letter-press printing establishments" means any

premises in which the process of letter-press printing is carried on. The expression "print-works" means any premises in which is carried on the process of printing figures, patterns, or designs upon any cotton, linen, woollen, worsted, or silken yarn or cloth, or upon any woven or felted fabric not being paper. The expression "bleaching works" means any premises in which the process of bleaching any yarn or cloth of any material is carried on. The expression "dyeing works" means any premises in which the process of dyeing any yarn or cloth of any material is carried on.

*SEC. 5. Whoever, either for himself or as superintendent, overseer, or other agent of another, violates any of the provisions of this act shall be punished by fine of not less than fifty nor more than one hundred dollars: *provided, however*, that if any minor under eighteen years of age, or any woman, shall, without the orders, consent, or knowledge of the employer, or of any superintendent, overseer, or other agent of the employer, labor in a factory or workshop during any part of any time allowed for dinner or for other meals in such factory or workshop, according to the notice required by law, and if a copy of such notice was posted in a conspicuous place in the room where such labor took place, together with a rule of the establishment forbidding such minor or woman to labor during such time, then neither the employer, nor any superintendent, overseer, or other agent of the employer, shall be held responsible for such labor.

[PUBLIC STATUTES, AS AMENDED.]

CHAPTER 104.

Of the Inspection of Buildings.

†SEC. 13. The belting, shafting, gearing, and drums of all factories, when so placed as to be in the opinion of the inspectors mentioned in section nine of chapter one hundred and three, dangerous to persons employed therein while engaged in their ordinary duties, shall be as far as practicable securely guarded.

No machinery other than steam-engines in a factory, shall be cleaned while running, if objected to in writing by one of said inspectors. All factories shall be well ventilated and kept clean.

‡SEC. 14. The openings of all hoistways, hatch-ways, elevators, and well-holes upon every floor of a factory or mercantile or public building shall be protected by good and sufficient trap-doors, or self-closing hatches and safety-catches, or such other safeguards as said inspectors direct; and all due diligence shall be used to keep such trap-doors closed at all times, except when in actual use by the occupant of the building having the use and control of the same. §All elevator cabs or cars, whether used for freight or passengers, shall be provided with some suitable mechanical device to be approved by the said inspectors, whereby the cab or car will be securely held in the event of an accident to the shipper-rope or hoisting machinery, or from any similar cause.

[Sections fifteen to twenty inclusive were repealed by chapter four hundred and twenty-six, acts of eighteen hundred and eighty-eight.]

SEC. 21. No explosive or inflammable compound shall be used in any factory in such place or manner as to obstruct or render hazardous the egress of operatives in case of fire.

||SEC. 22. Any person or corporation, being the owner, lessee, or occupant of a manufacturing establishment, factory, or workshop, or owning or controlling the use of any building or room mentioned in section twenty, shall, for the violation of any provision of sections thirteen to twenty-one, inclusive, be punished by a fine of not less than fifty nor more than five hundred dollars, and shall also be liable for all damages

*1887, chap. 330.

†1882, chap. 206, §1.

‡1882, chap. 208, §1.

§1882, chap. 206, §1.

||1882, chap. 206, §3.

suffered by any employe by reason of such violation; but no criminal prosecution shall be made for such violation until four weeks after notice in writing by an inspector of factories and public buildings, of any changes necessary to be made to comply with the provisions of said sections, has been sent by mail or delivered to such person or corporation; nor then, if in the meantime such changes have been made in accordance with such notification. Notice to one member of a firm, or to the clerk or treasurer of a corporation, owning, leasing, occupying, or controlling, as aforesaid, shall be deemed a sufficient notice under this section to all the members of such firm or to such corporation. Nothing in this section shall be so construed as to prohibit a person injured from bringing an action to recover damages for his injuries.

[ACTS OF 1883.]

CHAPTER 173.

AN ACT to provide against the Use of Unsafe Elevators.

If any elevator, whether used for freight or passengers, shall, in the judgment of the inspector of factories and public buildings of the district in which such elevator was used, or, in the city of Boston, of the inspector of buildings of said city, be unsafe or dangerous to use, or has not been constructed in the manner required by law, the said inspector shall immediately placard conspicuously upon the entrance to or door of the cab or car of such elevator a notice of its dangerous condition, and prohibit the use of such elevator until made safe to the satisfaction of said inspector. Any person removing such notice or operating such elevator while such notice is placarded, as aforesaid, without authority from said inspector, shall be punished by a fine of not less than ten or more than fifty dollars for each offense.

[ACTS OF 1890.]

CHAPTER 90.

AN ACT in relation to the Employment of Custodians of Elevators.

SECTION 1. No person, firm, or corporation shall employ or permit any person under fifteen years of age to have the care, custody, management, or operation of any elevator, or shall employ or permit any person under eighteen years of age to have the care, custody, management, or operation of any elevator running at a speed of over two hundred feet a minute.

SEC. 2. Whoever violates the provisions of this act shall forfeit a sum not less than twenty-five dollars, or more than one hundred dollars for each offense.

[ACTS OF 1884.]

CHAPTER 52.

AN ACT prohibiting the Locking of the Doors of Buildings, wherein Operatives are employed, during the Hours of Labor.

SECTION 1. No outside or inside doors of any building, wherein operatives are employed, shall be so locked, bolted, or otherwise fastened, during the hours of labor, as to prevent free egress.

SEC. 2. Any person, firm, or corporation being the owner, lessee, or occupant of any such building, who shall, after receiving five days' notice in writing from one of the inspectors of factories and public buildings, neglect or refuse to comply with the provisions of the preceeding section, shall forfeit to the use of the Commonwealth not less than ten nor more than fifty dollars.

SEC. 3. The inspectors of factories and public buildings shall enforce the provisions of this act.

SEC. 4. This act shall take effect upon its passage.

[ACTS OF 1886.]

CHAPTER 173.

AN ACT relating to providing Means of Communication between Rooms in Manufacturing Establishments where Machinery is propelled by Steam and the room where the Engineer is stationed.

* SECTION 1. In every manufacturing establishment where the machinery used is propelled by steam, communication shall be provided between each room where such machinery is placed and the room where the engineer is stationed, by means of speaking tubes, electric bells, or appliances that may control the motive power, or such other means as shall be satisfactory to the inspectors of factories: *provided*, that in the opinion of the inspectors such communication is necessary.

SEC. 2. The inspectors of factories shall enforce the provisions of this act, and any person, firm, or corporation being the occupant of any manufacturing establishment or controlling the use of any building or room where machinery propelled by steam is used, violating the provisions of this act, shall forfeit to the use of the Commonwealth not less than twenty-five nor more than one hundred dollars; but no prosecution shall be made for such violation until four weeks after notice in writing by an inspector has been sent by mail to such person, firm, or corporation of any changes, necessary to be made to comply with the provisions of this act, nor then, if in the meantime such changes have been made in accordance with such notification.

[ACTS OF 1886.]

CHAPTER 260.

An Act relative to Reports of Accidents in Factories and Manufacturing Establishments.

†SECTION 1. All manufacturers, manufacturing corporations, and proprietors of mercantile establishments shall forthwith send to the chief of the Massachusetts district police a written notice of any accident to an employe while at work in any factory, manufacturing, or mercantile establishment operated by them whenever the accident results in the death of said employe or causes bodily injury of such a nature as to prevent the person injured from returning to his work within four days after the occurrence of the accident.

SEC. 2. Any person or corporation violating any of the provisions of section one of this act shall be punished by a fine not exceeding twenty dollars.

SEC. 3. The chief of the Massachusetts district police shall keep a record of all accidents so reported to him, together with a statement of the name of the person injured, the city or town where the accident occurred, and the cause thereof, and shall include an abstract of said record in his annual report.

SEC. 4. This act shall take effect on the first day of July in the year eighteen hundred and eighty-six.

[PUBLIC STATUTES, AS AMENDED.]

CHAPTER 47.

Of the Attendance of Children in the Schools.

‡SECTION 1. Every person having under his control a child between the ages of eight and fourteen years, shall annually cause such child to attend some public day school in the city or town in which he resides, and such attendance shall continue for at least thirty weeks of the school year, if the schools are kept open that length of time, with an allowance of two weeks' time for absences not excused by the superintendent of schools or the school committee, and for every neglect of such duty the

* 1890, chap. 179.

†1890, chap. 83

‡1889, chap. 464; 1890, chap. 384.

person offending shall, upon the complaint of the school committee or any truant officer, forfeit to the use of the public schools of such city or town a sum not exceeding twenty dollars; but if such child has attended for a like period of time a private day school, approved by the school committee of such city or town, or if such child has been otherwise instructed for a like period of time in the branches of learning required by law to be taught in the public schools, or has already acquired the branches of learning required by law to be taught in the public schools, or if his physical or mental condition is such as to render such attendance inexpedient or impracticable, such penalties shall not be incurred.

*SEC. 2. For the purposes of the preceding section school committees shall approve a private school only when the teaching in all the studies required by law is in the English language, and when they are satisfied that such teaching equals in thoroughness and efficiency the teaching in the public schools in the same locality, and that equal progress is made by the pupils therein, in the studies required by law, with that made during the same time in the public schools; but they shall not refuse to approve a private school on account of the religious teaching therein.

SEC. 3. The truant officers and the school committee of the several cities and towns shall vigilantly inquire into all cases of neglect of the duty prescribed in section one, and ascertain the reasons, if any, therefor; and such truant officers, or any of them, shall, when so directed by the school committee, prosecute, in the name of the city or town, any person liable to the penalty provided for in said section. Police, district, and municipal courts, trial justices, and judges of the probate court, shall have jurisdiction within their respective counties of the offenses described in section one.

SEC. 4. All children within the Commonwealth may attend the public schools in the place in which they have their legal residence, subject to the regulations prescribed by law.

SEC. 5. The school committee shall determine the number and qualifications of the scholars to be admitted into the high school.

SEC. 6. Children living remote from any public school in the town in which they reside may be allowed to attend the public schools in an adjoining town, under such regulations and on such terms as the school committees of the said towns agree upon and prescribe; and the school committee of the town in which such children reside shall pay the sum agreed upon out of the appropriations of money raised in said town for the support of schools.

SEC. 7. Any minor under guardianship, whose father has died, may attend the public schools of the city or town of which his guardian is an inhabitant.

SEC. 8. Children may, with the consent of the school committee first obtained, attend school in cities and towns other than those in which their parents or guardians reside; but when a child resides in a city or town different from that of the residence of the parent or guardian for the sole purpose of attending school there, the parent or guardian of such child shall be liable to pay such city or town, for tuition, a sum equal to the average expense per scholar for such school for the period during which the child so attends.

SEC. 9. The school committee shall not allow a child who has not been duly vaccinated to be admitted to or connected with the public schools.

SEC. 10. No person shall be excluded from a public school on account of the race, color, or religious opinions of the applicant or scholar.

SEC. 11. Every member of the school committee under whose directions a child is excluded from a public school, and every teacher of such school from which a child is excluded, shall, on application by the parent or guardian of such child, state in writing the grounds and reason of the exclusion.

SEC. 12. A child unlawfully excluded from a public school may recover damages therefor in an action of tort, to be brought in the name of such child by his guardian or next friend, against the city or town by which such school is supported.

*1880, chap. 464.

SEC. 13. The plaintiff in such action may, by filing interrogatories for discovery, examine any member of the school committee, or any other officer of the defendant city or town, as if he were a party to the suit.

[ACTS OF 1888.]

CHAPTER 348.

AN ACT in relation to the Employment of Children.

SECTION 1. No child under thirteen years of age shall be employed at any time in any factory, workshop, or mercantile establishment. No such child shall be employed in any indoor work, performed for wages or other compensation, to whomsoever payable, during the hours when the public schools of the city or town in which he resides are in session, or shall be employed in any manner during such hours unless during the year next preceding such employment he has attended school for at least twenty weeks as required by law.

SEC. 2. No child under fourteen years of age shall be employed in any manner before the hour of six o'clock in the morning or after the hour of seven o'clock in the evening. No such child shall be employed in any factory, workshop, or mercantile establishment, except during the vacation of the public schools in the city or town where he resides, unless the person or corporation employing him procures and keeps on file a certificate and employment ticket for such child as prescribed by section four of this act, and no such child shall be employed in any indoor work, performed for wages or other compensation, to whomsoever payable, during the hours when the public schools of such city or town are in session, unless, as aforesaid, or shall be employed in any manner during such hours unless during the year next preceding such employment he has attended school for at least twenty weeks as required by law; and such employment shall not continue in any case beyond the time when such certificate expires. The chief of the district police, with the approval of the governor, shall have authority to designate any kind or kinds of employment in factories, workshops, or mercantile establishments as injurious to the health of children under fourteen years of age employed therein, and after one week's written notice from the said chief to the employer or his superintendent, overseer, or agent of such designation no such child shall be employed in any such kind or kinds of employment in any factory, workshop, or mercantile establishment.

SEC. 3. No child under sixteen years of age shall be employed in any factory, workshop, or mercantile establishment unless the person or corporation employing him procures and keeps on file the certificate required in the case of such child by the following section, and also keeps on file a full and complete list of such children employed therein.

SEC. 4. The certificate of a child under fourteen years of age shall not be signed until he presents to the person authorized to sign the same an employment ticket, as hereinafter prescribed, duly filled out and signed. The certificate and the employment ticket shall be separately printed, and shall be in the following forms respectively, and the blanks therein shall be filled out and signed as indicated by the words in brackets:—

EMPLOYMENT TICKET, LAW OF 1888.

When [name of child,] height [feet and inches,] complexion [fair or dark,] hair [color,] presents a certificate duly signed, I intend to employ [him or her.]

[Signature of intending employer or agent.]

[Town or city and State.]

AGE AND SCHOOLING CERTIFICATE, LAW OF 1888.*

This certifies that I am the [father, mother, or guardian] of [name of child,] and that [he or she] was born at [name of town or city,] in the county of [name of county, if known,] and state [or country] of [name,] on the [day and year of birth,] and is now [number of years and months] old.

[Signature of father, mother, or guardian.]

[Town or city and date.]

*See also chap. 290, Acts of 1890.

Then personally appeared before me the above named [name of person signing] and made oath that the foregoing certificate by [him or her] signed is true to the best of [his or her] knowledge and belief. I hereby approve the foregoing certificate of [name of child,] height [feet and inches,] complexion [fair or dark,] hair [color,] having no sufficient reason to doubt that [he or she] is of the age therein certified.

[Signature of person authorized to sign, with official character or authority.]

[Town or city and date.]

In case the age of the child is under fourteen, the certificate shall continue as follows, after the word "certified":—

And I hereby certify that [he or she] can read at sight, and can write legibly, simple sentences in the English language, and that [he or she] has attended the [name] public [or private] day school according to law for [number of weeks, which must be at least 20] weeks during the year next preceeding this date, and that the last twenty weeks of such attendance began [date.] This certificate expires [date, one year later than above date.]

[Signature of the person authorized to sign, with official character or authority.]

If attendance has been at a private school, also signature of a teacher of such school, followed by words,—certifying to school attendance.

[Town or city and date.]

In case a child cannot read and write, as above stated, the following may be substituted for the clause beginning "and I hereby certify" through to and including the word "language": "and I hereby certify that [he or she] is a regular attendant at the [name] public evening school"; but in such case the certificate shall only continue in force for as long a time as attendance of such child at such evening school is endorsed weekly during the session of such evening school, not exceeding the length of the public school year minus twenty weeks in place of attendance at day school as now provided by law, with a statement from a teacher thereof certifying that his attendance continues regular. If attendance has been at a half-time school, forty weeks of such attendance must be certified to instead of twenty. The foregoing certificate must be filled out in duplicate, and one copy thereof shall be kept on file by the school committee. Any explanatory matter may be printed with such certificate in the discretion of the school committee or superintendent of schools.

SEC. 5. In cities and towns having a superintendent of schools, said certificate shall be signed only by such superintendent, or by some person authorized by him in writing; in other cities and towns it shall be signed by some member or members of the school committee authorized by vote thereof; *provided, however*, that no member of a school committee, or other person authorized, as aforesaid, shall have authority to sign such certificate for any child then in, or about to enter, his own employment, or the employment of a firm of which he is a member, or of a corporation of which he is an officer or employe. The person signing the certificate shall have authority to administer the oath provided for therein, but no fee shall be charged therefor; such oath may also be administered by any justice of the peace.

SEC. 6. The certificate as to the birthplace and age of a child shall be signed by his father, if living, and a resident of the same city or town; if not, by his mother; or if his mother is not living, or, if living, is not a resident of the same city or town, by his guardian; if a child has no father, mother or guardian living in the same city or town, his own signature to the certificate may be accepted by the person authorized to approve the same.

*SEC. 7. No child who has been continuously a resident of a city or town since reaching the age of thirteen years shall be entitled to receive a certificate that he has reached the age of fourteen unless or until he has attended school according to law in such city or town for at least twenty weeks since reaching the age of thirteen, unless such child can read at sight and write legibly simple sentences in the English language or is exempted by law from such attendance. Before signing the approval of the certificate of age of a child, the person authorized to sign the same shall refer to the last school census taken under the provisions of

*1889, chap. 291.

section three of chapter forty-six of the Public Statutes, and if the name of such child is found thereon, and there is a material difference between his age as given therein and as given by his parent or guardian in the certificate, allowing for lapse of time, or if such child plainly appears to be of materially less age than that so given, then such certificate shall not be signed until a copy of the certificate of birth or of baptism of such child, or a copy of the register of its birth with a town or city clerk, has been produced, or other satisfactory evidence furnished that such child is of the age stated in the certificate.

SEC. 8. The truant officers may, when so authorized and required by vote of the school committee, visit the factories, workshops, and mercantile establishments in their several cities and towns, and ascertain whether any children under the age of fourteen are employed therein contrary to the provisions of this act, and they shall report any cases of such illegal employment to the school committee and to the chief of the district police or the inspector of factories for the district. The inspectors of factories, and the truant officers when authorized, as aforesaid, may demand the names of all children under sixteen years of age employed in such factories, workshops, and mercantile establishments, and may require that the certificates and lists of such children provided for in this act shall be produced for their inspection. Such truant officers shall inquire into the employment, otherwise than in such factories, workshops, and mercantile establishments, of children under the age of fourteen years, during the hours when the public schools are in session, and may require that the aforesaid certificates of all children under sixteen shall be produced for their inspection; and any such officer, or any inspector of factories, may bring a prosecution against a person or corporation employing any such child, otherwise than as aforesaid, during the hours when the public schools are in session, contrary to the provisions of this act, if such employment still continues one week after written notice from such officer or inspector that such prosecution will be brought, or if more than one such written notice, whether relating to the same child or to any other child, has been given to such employer by a truant officer or inspector of factories at any time within one year.

SEC. 9. Every parent or guardian of a child under fourteen years of age who permits any employment of such child contrary to the provisions of this act, and every owner, superintendent, or overseer of any factory, workshop, or mercantile establishment who employs or permits to be employed therein any child contrary to the provisions of this act, and any other person who employs any child contrary to the provisions of this act, shall for every such offense forfeit not less than twenty nor more than fifty dollars for the use of the public schools of the city or town. Every parent, guardian, or person authorized to sign the certificate prescribed by section four of this act, who certifies to any materially false statement therein, shall be punished by a fine not exceeding fifty dollars, or by imprisonment not exceeding thirty days, or by both such fine and imprisonment. A failure to produce to a truant officer or inspector of factories the certificate required by the provisions of this act shall be *prima facie* evidence of the illegal employment of the child whose certificate is not produced.

SEC. 10. The expressions "factory" and "workshop" used in this act shall have the meanings defined for them respectively by chapter one hundred and three of the acts of the year one thousand eight hundred and eighty-seven.

SEC. 11. Within one month of the passage of this act the chief of the district police shall cause a printed copy thereof to be transmitted to the school committee of every city and town in the Commonwealth.

SEC. 12. Sections one to six, inclusive, of chapter forty-eight of the Public Statutes, chapter two hundred and twenty-four of the acts of the year eighteen hundred and eighty-three, chapter two hundred and twenty-two of the acts of the year eighteen hundred and eighty-five, and section one of chapter four hundred and thirty-three of the acts of the year eighteen hundred and eighty-seven are hereby repealed.

SEC. 13. This act shall take effect on the first day of July in the year one thousand eight hundred and eighty-eight.

[ACTS OF 1890.]

CHAPTER 299.

AN ACT in relation to the Age and Schooling Certificates of Children employed in Factories, Workshops, and Mercantile Establishments.

SECTION 1. The following words shall appear on all age and schooling certificates enumerated in section four of chapter three hundred and forty-eight of the acts of the year eighteen hundred and eighty-eight after the name of the city or town and date:—This certificate belongs to the person in whose behalf it has been drawn, and it shall be surrendered to (him or her) whenever (he or she) leaves the service of the corporation or employer holding the same; and any such corporation or employer refusing to so deliver the same shall be punished by a fine of ten dollars.

SEC. 2. Any corporation or employer holding any age or schooling certificate enumerated in section four of chapter three hundred and forty-eight of the acts of the year eighteen hundred and eighty-eight and refusing to deliver the same to the person in whose behalf it has been drawn, when such person shall leave the employ of said corporation or employer, shall be punished by a fine of ten dollars.

[ACTS OF 1886.]

CHAPTER 87.

(As amended by Chap. 399, Acts of 1887.)

AN ACT to provide for the Weekly Payment of Wages by Corporations.

SECTION 1. Every manufacturing, mining or quarrying, mercantile, railroad, street railway, telegraph, and telephone corporation, every incorporated express company, and water company shall pay weekly each and every employe engaged in its business the wages earned by such employe to within six days of the date of said payment; and every incorporated city shall so pay every employe engaged in its business, unless such employe shall request in writing to be paid in some different manner; and every municipal corporation not a city, and every incorporated county shall so pay every employe engaged in its business if so required by him: *provided, however*, that if at any time of payment any employe shall be absent from his regular place of labor he shall be entitled to said payment at any time thereafter upon demand. *The provisions of this section shall not apply to any employe of a co-operative corporation or association who is a stockholder therein, unless such employe shall request such corporation to pay him weekly: and *provided, also*, that the railroad commissioners, after a hearing, may exempt any railroad corporation from paying weekly any of its employes who, in the opinion of the commissioners, prefer less frequent payments, and when, in their opinion, the interests of the public and such employes will not be injured thereby.

SECTION. 2 Any corporation violating any of the provisions of this act shall be punished by a fine not exceeding fifty and not less than ten dollars on each complaint under which it is convicted: *provided*, complaint for such violation is made within thirty days from the date thereof. The chief of the district police, or any state inspector of factories and public buildings, may bring a complaint against any corporation which neglects to comply with the provisions of this act for a period of two weeks after having been notified in writing by such chief or inspector that such complaint will be brought. †On the trial of such complaint such corporation shall not be allowed to set up any defense for a failure to pay weekly any employe engaged in its business the wages earned by such employe to within six days of the date of said payment, other than the attachment of such wages by the trustee process, or a valid assignment thereof, or a valid set-off against the same, or the absence of such employe from his regular place of labor at the time of payment, or an actual tender

*1887, Chap. 309.

†1887, chap. 309.

to such employe at the time of payment of the wages so earned by him. No assignment of future wages payable weekly under the provisions of this act shall be valid if made to the corporation from whom such wages are to become due, or to any person on behalf of such corporation, or if made or procured to be made to any person for the purpose of relieving such corporation from the obligation to pay weekly under the provisions of this act.

SEC. 3. When a corporation against which a complaint is made under this act fails to appear after being duly served with process, its default shall be recorded, the allegations in the complaint taken to be true, and judgment shall be rendered accordingly.

SEC. 4. When judgment is rendered upon any such complaint against a corporation, the court may issue a warrant of distress to compel the payment of the penalty prescribed by law, together with costs and interest.

SEC. 5. This act shall take effect upon the first day of July in the year eighteen hundred and eighty-six.

[ACTS OF 1887.]

(*As Amended by Chap. 305, Acts of 1888.*)

CHAPTER 103.

Relating to Sanitary Appliances and Ventilation.

SECTION. 1. Every factory in which five or more persons are employed, and every factory, workshop, mercantile or other establishment or office in which two or more children, young persons or women are employed, shall be kept in a cleanly state and free from effluvia arising from any drain, privy, or other nuisance, and shall be provided, within reasonable access, with a sufficient number of proper water-closets, earth-closets, or privies for the reasonable use of the persons employed therein; and whenever two or more male persons and two or more female persons are employed as aforesaid together, a sufficient number of separate and distinct water-closets, earth-closets, or privies shall be provided for the use of each sex and plainly so designated, and no person shall be allowed to use any such closet or privy assigned to persons of the other sex.

SEC. 2. It shall be the duty of every owner, lessee, or occupant of any premises so used as to come within the provisions of this act to carry out the same and to make the changes necessary therefor. In case such changes are made upon the order of an inspector of factories by the occupant or lessee of the premises, he may at any time within thirty days of the completion thereof bring an action before any trial justice, police, municipal, or district court against any other person having an interest in such premises, and may recover such proportion of the expense of making such changes as the court adjudges should justly and equitably be borne by such defendant.

SEC. 3. When it appears to an inspector of factories that any act, neglect, or default in relation to any drain, water-closet, earth-closet, privy, ash-pit, water supply, nuisance, or other matter in a factory or in a workshop, included under section one of this act, is punishable or remediable under chapter eighty of the Public Statutes, or under any law of the Commonwealth relating to the preservation of the public health, but not under this act, such inspector shall give notice in writing of such act, neglect, or default to the board of health of the city or town within which such factory or workshop is situate, and it shall thereupon be the duty of such board of health to make inquiry into the subject of the notice, and to take such action thereon in the way of enforcing any provision of law within its authority as the facts may call for.

SEC. 4. Any person violating any provision of sections one and two of this act shall be punished by fine not exceeding one hundred dollars; but no criminal prosecution shall be made for such violation until four weeks after notice in writing by an inspector of factories of the changes necessary to be made to comply with the provisions of said sections has been sent by mail or delivered to such person, nor then, if in the meantime such changes have been made in accordance with such notification. A

notice shall be deemed a sufficient notice under this section to all the members of a firm or to a corporation when given to one member of such firm, or to the clerk, cashier, secretary, agent, or any other officer having charge of the business of such corporation, or to its attorney; and in the case of a foreign corporation, notice to the officer having the charge of such factory or workshop shall be sufficient; and such officer shall be personally liable for the amount of any fine in case a judgment against the corporation is returned unsatisfied.

SEC. 5. The following expressions used in this act shall have the following meanings:—

The expression "person" means any individual, corporation, partnership, company, or association.

The expression "child" means a person under the age of fourteen years.

The expression "young person" means a person of the age of fourteen years and under the age of eighteen years.

The expression "woman" means a woman of eighteen years of age and upwards.

The expression "factory" means any premises where steam, water, or other mechanical power is used in aid of any manufacturing process there carried on.

The expression "workshop" means any premises, room or place, not being a factory as above defined, wherein any manual labor is exercised by way of trade, or for purposes of gain in, or incidental to, any process of making, altering, repairing, ornamenting, finishing, or adapting for sale any article or part of an article, and to which or over which premises, room or place, the employer of the persons working therein has the right of access or control: *provided, however*, that the exercise of such manual labor in a private house or private room by the family dwelling therein, or by any of them, or in case a majority of the persons therein employed are members of such family, shall not of itself constitute such house or room a workshop within this definition.

The aforesaid expressions shall have the meanings above defined for them respectively in all laws of this Commonwealth relating to the employment of labor, whether heretofore or hereafter enacted, unless a different meaning is plainly required by the context.

SEC. 6. This act shall take effect upon its passage.

[ACTS OF 1887.]

CHAPTER 173.

AN ACT to Secure the Proper Ventilation of Factories and Workshops.

SECTION 1. Every factory in which five or more persons are employed, and every workshop in which children, young persons, or women, five or more in number, are employed, shall be so ventilated while work is carried on therein that the air shall not become so exhausted as to be injurious to the health of the persons employed therein, and shall also be so ventilated as to render harmless, so far as is practicable, all the gases, vapors, dust, or other impurities generated in the course of the manufacturing process or handicraft carried on therein that may be injurious to health.

SEC. 2. If in a factory or workshop included in section one of this act any process is carried on by which dust is generated and inhaled to an injurious extent by the persons employed therein, and it appears to an inspector of factories that such inhalation could be to a great extent prevented by the use of a fan or other mechanical means, and that the same could be provided without excessive expense, such inspector may direct a fan or other mechanical means of a proper construction to be provided within a reasonable time, and such fan or other mechanical means shall be so provided, maintained, and used.

SEC. 3. Any person employing labor in a factory or workshop and violating any provision of this act shall be punished by fine not exceeding one hundred dollars; but no criminal prosecution shall be made for any such violation unless such employer shall have neglected for four

weeks to make such changes in his factory or workshop as shall have been ordered by an inspector of factories by a notice in writing delivered to or received by such employer.

[ACTS OF 1888.]

CHAPTER 149.*

AN ACT to cause Proper Sanitary Provisions and Proper Ventilation in Public Buildings and School-houses.

SECTION 1. Every public building and every school-house shall be kept in a cleanly state and free from effluvia arising from any drain, privy, or other nuisance, and shall be provided with a sufficient number of proper water-closets, earth closets, or privies for the reasonable use of the persons admitted to such public building or of the pupils attending such school-house.

SEC. 2. Every public building and every school-house shall be ventilated in such a proper manner that the air shall not become so exhausted as to be injurious to the health of the persons present therein. The provisions of this section and the preceding section shall be enforced by the inspection department of the district police force.

SEC. 3. Whenever it shall appear to an inspector of factories and public buildings that further or different sanitary provisions or means of ventilation are required in any public building or school-house in order to conform to the requirements of this act, and that the same can be provided without incurring unreasonable expense, such inspector may issue a written order to the proper person or authority directing such sanitary provisions or means of ventilation to be provided, and they shall thereupon be provided in accordance with such order by the public authority, corporation, or person having charge of, owning, or leasing such public building or school-house.

SEC. 4. Any school committee, public officer, corporation or person neglecting for four weeks after the receipt of an order from an inspector, as provided in the preceding section, to provide the sanitary provisions or means of ventilation required thereby, shall be punished by fine not exceeding one hundred dollars.

SEC. 5. The expression "public building" used in this act means any building or premises used as a place of public entertainment, instruction, resort, or assemblage. The expression "school-house" means any building or premises in which public or private instruction is afforded to not less than ten pupils at one time.

SEC. 6. This act shall take effect upon its passage.

[ACTS OF 1888.]

CHAPTER 426.†

AN ACT in relation to Ways of Egress and Means of Escape from Fire in Certain Buildings.

SECTION 1. Every building now or hereafter used, in whole or in part, as a public building, public or private institution, school-house, church, theatre, public hall, place of assemblage, or place of public resort, and every building in which ten or more persons are employed above the second story in a factory, workshop, or mercantile or other establishment, and every hotel, family hotel, apartment-house, boarding-house, lodging-house, or tenement-house in which ten or more persons lodge or reside above the second story, and every factory, workshop, mercantile, or other establishment, the owner, lessee, or occupant of which is notified in writing by the inspector hereinafter mentioned that the provisions of this act are deemed by him applicable thereto, shall be provided with proper ways of egress, or other means of escape from fire, sufficient for the use of all persons accommodated, assembling, employed, lodging, or residing in such building; and such ways of egress and means of escape shall be kept free

*See also chap. 438, Acts of 1890.

†See also chap. 438, Acts of 1890.

from obstruction, in good repair and ready for use. Every room above the second story in any such building in which ten or more persons are employed shall be provided, if the inspector mentioned in the following section shall so direct in writing, with more than one way of egress by stairways on the inside or outside of the building, placed as near as practicable at opposite ends of such room; stairways on the outside of the building shall have suitable railed landings at each story above the first, and shall connect with each story by doors or windows; and such landings, doors, and windows shall be kept clear of ice and snow and other obstructions. Women or children shall not be employed in a factory, workshop, or mercantile or other establishment, in a room above the second story from which there is only one way of egress, if the inspector mentioned in the following section shall so direct in writing. All doors and windows in any building subject to the provisions of this section shall open outwardly if the inspector mentioned in the following section shall so direct in writing. No portable seats shall be allowed in the aisles or passageways of such building during any service or entertainment held therein. The proscenium or curtain opening of all theatres shall have a fire-resisting curtain of some incombustible material, and such curtain shall be properly constructed, and shall be operated by proper mechanism; the certificate of the inspector mentioned in the following section shall be conclusive evidence of a compliance with such requirements.

SEC. 2. It shall be the duty of such inspectors of factories and public buildings, as may be assigned to such duty by the chief of the district police force, to examine, as soon as may be after the passage of this act, and thereafter from time to time, all buildings within his district subject to the provisions of this act, and it shall be the duty of the inspector of buildings of the city of Boston so to examine all such buildings within said city. In case any such building conforms, in the judgment of such inspector, to the requirements of this act, he shall issue to the owner, lessee, or occupant of such building, or of any portion thereof used as above mentioned in section one, a certificate to that effect, specifying the number of persons for whom the ways of egress or means of escape from fire are deemed to be sufficient. Such certificate shall be conclusive evidence, as long as it continues in force, of a compliance on the part of the person to whom it is issued with the provisions of this act. But such certificate shall be of no effect in case a greater number of persons than therein specified are accommodated or employed, or assemble, lodge, or reside within such building or portion thereof, or in case such building is used for any purposes materially different from those for which it was used at the time of the granting thereof, or in case the internal arrangements of such building are materially altered, or in case any ways of egress or means of escape from fire existing in such building at the time of such granting are stopped up, rendered unavailable or materially changed; and in no case shall such certificate continue in force for more than five years from its date. Such certificate may be revoked by such inspector at any time upon written notice to the person holding the same, or occupying the premises for which it was granted, and shall be so revoked whenever, in his opinion, any conditions or circumstances have so changed that the existing ways of egress and means of escape are no longer proper and sufficient. A copy of the said certificate shall be kept posted in a conspicuous place upon every floor of such building by the person occupying the premises covered thereby.

SEC. 3. Upon an application being made to an inspector for the granting of a certificate under this act, he shall issue to the person making the same an acknowledgment that such certificate has been applied for, and pending the granting or refusal of such certificate such acknowledgment shall have, for a period of ninety days, the same effect as such certificate, and such acknowledgment may be renewed by such inspector, with the same effect, for a further period not exceeding ninety days, and may be further renewed by the chief of the district police, until such time as such certificate shall be granted or refused.

SEC. 4. In case any change is made in any premises for which a certificate has been issued under this act, whether in the use thereof or other-

wise, such as terminates the effect of such certificate, as above provided in section two, it shall be the duty of the person making the same to give written notice thereof forthwith to the inspector for the district, or to the chief of the district police, if such premises are outside of the city of Boston, or to the inspector of buildings of the city of Boston, if within said city.

SEC. 5. In case any building, or portion thereof, subject to the provisions of this act is found by an inspector to fail to conform thereto, or in case any change is made in such building, or portion thereof, such as terminates the effect of a certificate formerly granted therefor as aforesaid, it shall be the duty of such inspector to give notice in writing to the owner, lessee, or occupant of such building, specifying and describing what additional ways of egress or means of escape from fire are necessary in the opinion of such inspector in order to conform to the provisions of this act, and to secure the granting of a certificate as aforesaid. Notice to any agent of such owner, lessee, or occupant in charge of the premises shall be sufficient notice under this section to such owner, lessee, or occupant.

SEC. 6. In case any building subject to the provisions of this act is owned, leased, or occupied, jointly or in severalty, by different persons, any one of such persons shall have the right to apply to any part of the outside of such building, and to sustain from any part of the wall thereof, any way of egress or means of escape from fire specified and described by an inspector as above provided, notwithstanding the objection of any other such owner, lessee, or occupant; and any such way of egress or means of escape may project over the highway.

SEC. 7. When a license is required by law or municipal ordinance, in order to authorize any premises to be used for any purpose mentioned in section one, no license for such purpose shall be granted until a certificate for such building or portion thereof shall first have been obtained from an inspector as above provided, and no such license hereafter issued shall continue in force any longer than such certificate remains in force.

SEC. 8. No wooden flue or air duct for heating or ventilating purposes shall hereafter be placed in any building subject to the provisions of section one of this act, and no pipe for conveying hot air or steam in such building shall be placed, or shall remain placed, nearer than one inch to any woodwork unless protected to the satisfaction of the said inspector by suitable guards or casings of incombustible material.

SEC. 9. Every story above the second of a building subject to the provisions of section one shall be supplied with means of extinguishing fire, consisting either of pails of water or other portable apparatus, or of a hose attached to a suitable water supply and capable of reaching any part of such story; and such means of extinguishing fire shall be kept at all times ready for use and in good condition.

SEC. 10. It shall be the duty of such members of the inspection department of the district police force as may be assigned to such duty by the chief of such force to enforce the provisions of this act outside of the city of Boston, and of the inspector of buildings of the city of Boston, to enforce the same within said city, and for such purpose such inspectors shall have the right of access to all parts of any buildings subject to the provisions of this act.

SEC. 11. Cities may by ordinance provide that the provisions of this act shall apply to any buildings three or more stories in height, within their respective limits.

SEC. 12. It shall be the duty of every owner, lessee, or occupant of any building or part thereof subject to this act to cause the provisions thereof to be carried out, and any owner, lessee, or occupant failing to observe such provisions shall be subject to a fine of not less than fifty nor more than one thousand dollars; but no prosecution therefor shall be brought until four weeks after written notice from an inspector, as above provided, of the changes necessary to be made in order to conform thereto, nor then, if in the meantime such changes have been made in accordance with such notification. Notice to one member of a firm, or to the clerk or treasurer of a corporation, or to the person in charge of the premises, shall be deemed sufficient notice hereunder, and such notice may be given

in person or by mail. Any such owner, lessee, or occupant shall be liable for all damages caused by his violation of the provisions of this act. Any person using or occupying a building contrary to the provisions of this act may be enjoined from such use or occupation in a proceeding to be had before the superior court or the supreme judicial court at the instance of the inspector, and upon the filing of a petition therefor any judge or justice of the court in which such proceeding is pending may issue a temporary injunction or restraining order, as provided in proceedings in equity.

SEC. 13. The governor of the Commonwealth is hereby authorized to appoint, from time to time, as may be necessary, not exceeding ten additional members of the inspection department of the district police force, qualified to perform the duties of the members of such department.

SEC. 14. Sections fifteen to twenty, inclusive, of chapter one hundred and four of the Public Statutes, section two of chapter two hundred and fifty-one of the acts of the year eighteen hundred and eighty-three, chapter three hundred and twenty-six of the act of the year eighteen hundred and eighty-five, chapter two hundred and seven of the acts of the year eighteen hundred and eighty-eight, and all acts and parts of acts inconsistent herewith, are hereby repealed.

SEC. 15. This act shall take effect on the first day of July in the year one thousand eight hundred and eight-eighth.

[ACTS OF 1888.]

CHAPTER 316.*

AN ACT to regulate the Erection and Construction of Certain Buildings.

SECTION 1. No building designed to be used in whole or in part as a public building, public or private institution, school-house, church, theatre, public hall, place of assemblage, or place of public resort, and no building more than two stories in height designed to be used above the second story, in whole or in part, as a factory, workshop, or mercantile or other establishment, and having accommodations for ten or more employees above said story, and no building more than two stories in height designed to be used above the second story, in whole or in part, as a hotel, family hotel, apartment house, boarding-house, lodging house or tenement house and having ten or more rooms above said story, shall hereafter be erected, unless in process of erection at the date of the passage of this act, until a copy of the plans of such building has been deposited with the inspector of factories and public buildings for the district in which such building is to be located, if outside of the city of Boston, or with the inspector of buildings of the city of Boston, if within said city, together with a copy of such portion of the specifications of such building as such inspector may require, nor shall any such building be so erected without the provision of sufficient ways of egress and other means of escape from fire, properly located and constructed; the certificate of the inspector above named endorsed, if the building is to be located outside of the city of Boston with the approval of the chief of the district police force, shall be conclusive evidence of a compliance with the provisions of this act, provided that after the granting of such certificate no change is made in the plans or specifications of such ways of egress and means of escape unless a new certificate is obtained therefor. Such inspector may require that proper fire stops shall be provided in the floors, walls, and partitions of such buildings and may make such further requirements as may be necessary or proper to prevent the spread of fire therein or its communication from any steam boiler or heating apparatus; and no pipe for conveying hot air or steam in such building shall be placed nearer than one inch to any woodwork unless protected to the satisfaction of such inspector by suitable guards or castings of incombustible material, and no wooden flue or air duct for heating or ventilating purposes shall be placed in any such building.

SEC. 2. Any person erecting or constructing a building in violation of the provisions of this act shall be punished by fine of not less than fifty nor more than one thousand dollars, and such erection or construction

*See also chap. 438, Acts of 1890.

may be enjoined in a proceeding to be had before the superior or supreme judicial court at the instance of the inspector above named, and upon the filing of a petition for such injunction any justice of the court in which such proceeding is pending may issue a temporary injunction or restraining order, as provided in proceedings in equity.

SEC. 3. This act shall take effect on the first day of October in the year one thousand eight hundred and eighty-eight.

[ACTS OF 1890.]

CHAPTER 438

AN ACT providing for an Appeal from the Orders of the Inspection Department of the District Police.

SECTION 1. Any person or corporation aggrieved by the order, requirement, or direction of an inspector, given under either of chapters one hundred and forty-nine, three hundred and sixteen, or four hundred and twenty-six of the acts of the year eighteen hundred and eighty-eight, may within ten days from the day of the service thereof, apply for an injunction against the enforcement of the same to a justice of the superior court; and thereupon, after such notice as the said justice shall order to all parties interested, a hearing may be had before some justice of said court at such early and convenient time and place as shall be fixed by said order, or the said justice may appoint three experts to examine the matter and hear the parties, which experts shall be disinterested persons and skilled in the subject matter of the controversy; and the decision of said court or the majority of said experts in writing, under oath, filed within ten days from the date of such hearing in the clerk's office of said court in the county wherein is the subject of the controversy, may either alter the order, requirement, or direction of such inspector, annul it in full or affirm the same. A duly certified copy of said decision, so filed as aforesaid, shall have the same authority, force, and effect as the original order of the inspector; and said decision shall have the same authority and effect as the original order, requirement, or direction. If such decision shall annul or alter the order, requirement, or direction of the inspector, the court shall also enjoin the said inspector from enforcing his order, requirement, or direction, and in every such case the certificate required by section two of chapter four hundred and twenty-six of the acts of the year eighteen hundred and eighty-eight shall thereupon be issued by said justice or by his order or the said experts appointed by said justice.

SEC. 2. The court may award reasonable compensation to experts appointed under the provisions of this act, to be paid by the county in which lies the matter in controversy, providing the appeal is decided against the order of the inspector, and to be paid by the party taking the appeal in case the order of the inspector is sustained.

SEC. 3. If the order, requirement, or direction of the inspector is affirmed by the court or experts, costs shall be taxed as in civil cases against the party moving for the injunction, such costs to be paid into the treasury of the county wherein the subject matter lies.

SEC. 4. This act shall take effect upon its passage.

[ACTS OF 1888.]

CHAPTER 399.

AN ACT providing for the Inspection in Certain Cases of Buildings and Other Structures alleged to be Unsafe or Dangerous.

SECTION 1. Any member of the inspection department of the district police force, when called upon by the mayor and aldermen of any city, except the city of Boston, or by the selectmen of a town, shall inspect any building or other structure or anything attached to or connected therewith in such city or town which has been represented to be unsafe or dangerous to life or limb.

SEC. 2. If it appears to an inspector upon such inspection that the

building or other structure or anything attached to or connected therewith is unsafe or dangerous to life or limb, in case of fire or otherwise, he shall proceed to cause the same to be removed or to render the same safe and secure, in the manner provided by sections four to eleven, inclusive, of chapter one hundred and four of the Public Statutes, and may cause proceedings to be instituted under section twelve of said chapter one hundred and four.

SEC. 3. The words "mayor and aldermen" in section five of said chapter one hundred and four shall for the purposes of this act be construed to apply to the mayor and aldermen of a city or the selectmen of a town as the case may be.

SEC. 4. If in any city or town in which such inspection is made there is no city engineer or chief engineer of the fire department, the mayor and aldermen or selectmen, as the case may be, shall designate some other officer or officers or some suitable persons in place of the officers so named to act upon the board of survey provided for in section six of said chapter one hundred and four, and the provisions of said section, and of sections seven, eight, nine, ten, and twelve of said chapter one hundred and four shall apply to a board thus constituted.

[ACTS OF 1883.]

CHAPTER 251.

AN ACT to secure Better Provisions for Escape from Hotels and Certain Other Buildings in Case of Fire.

*SECTION 1. Every keeper of a hotel, boarding or lodging house containing one hundred or more rooms, and being four or more stories high, shall have therein at least two competent watchmen, each properly assigned, and each on duty between the hours of nine o'clock in the afternoon and six o'clock in the forenoon. And every keeper of a hotel, boarding or lodging-house, containing fifty or more, but less than one hundred, rooms, and being three stories high, shall have between said hours at least one competent watchman on duty therein. And in all such hotels or lodging-houses as are mentioned in this section, the halls and stairways shall be properly lighted at night, and at the head and foot of each flight of stairs shall be kept during the night a red light; and one or more proper alarms or gongs, capable of being heard throughout the house, shall always remain easy of access and ready for use in each of said buildings, to give notice to the inmates in case of fire. And every keeper of such hotel, boarding or lodging-house shall keep posted in a conspicuous place in every sleeping-room, a notice descriptive of such means of escape.

[Section 2 was repealed by chapter 426, Acts of 1888.]

SEC. 3. The inspector of buildings in the city of Boston, the mayor and aldermen of other cities, and the selectmen of towns, shall prescribe, as they deem necessary, except so far as is specifically required in the preceding sections, what additional night watch shall be kept, and what further provisions for the prevention of fires, and for the better protection of life in case of fire, shall be made by the several keepers of hotels, boarding or lodging-houses within their respective limits; and no license shall be granted to any keeper of a hotel embraced in the provisions of this act, until the requirements thereof, so far as applicable, have been complied with.

SEC. 4. Whoever neglects or refuses to provide watchmen as required by this act shall be punished by a fine not exceeding one thousand dollars for each offense, and whoever violates any of the other provisions of this act shall be subject to the same penalty as is prescribed in section twenty-two of chapter one hundred and four of the Public Statutes.

*1884, Chap. 223.

[ACTS OF 1884.]

CHAPTER 223.

AN ACT relating to Safety Appliances in Hotels and Public Buildings.

SECTION 1. All hotels, boarding and lodging-houses, subject to the provisions of chapter two hundred and fifty-one of the acts of the year eighteen hundred and eighty-three, adopting a system of electric watch-clocks that shall register at the office the movements of a watchman throughout the house, or adopting in the rooms any system of thermostats or fire-alarm bells that shall be approved by the inspector of factories and public buildings, or in the city of Boston by the inspector of buildings, shall be exempt from maintaining more than one watchman in addition to the regular night clerk and porters.

SEC. 2. The provisions of this act, and of said chapter two hundred and fifty-one of the acts of the year eighteen hundred and eighty-three, shall apply to family hotels.

SEC. 3. This act shall take effect upon its passage.

[ACTS OF 1890.]

CHAPTER 307.

AN ACT for the Better Protection of Human Life in Hotels in case of Fire.

SECTION 1. Every owner, lessee, proprietor, or manager of a hotel situated in this Commonwealth shall, on or before the first day of January in the year eighteen hundred and ninety-one, place or cause to be placed a knotted rope or other better appliance for use as a fire escape in every room of said hotel used as a lodging room, except rooms on the ground floor; which knotted rope or other better appliance shall be securely fastened at one end of it to a suitable iron hook or eye to be securely screwed into one of the joists or timbers next adjoining the frame of the window, or one of the windows, of said room at least five feet from the floor, which rope shall be at all times kept coiled and exposed to the plain view of any occupant of said room; the coil to be fastened in such manner as to be easily and quickly loosened and uncoiled; such rope shall contain knots not more than eighteen inches apart, and a loop on the end at least three inches in length, and shall not be less than one-half inch in diameter and of sufficient length to reach from such window to the ground. Such rope, iron hook, or eye and fastenings shall be of sufficient strength to sustain a weight of four hundred pounds, and there shall be plain directions how to use such rope or other better appliance, printed and posted within six inches of the hook or eye to which the rope is fastened; *provided, however*, that the owner, lessee, proprietor, or manager of a hotel which is otherwise suitably provided with fire escape for the protection of human life in case of fire shall not be required to comply with the foregoing provisions.

SEC. 2. It shall be the duty of the inspector of buildings of every city or town in the Commonwealth or, if there be no such officer, of the chief engineer or the officer performing the duty of chief engineer of the fire department of every city or town in the Commonwealth, in the month of May of each year, to inspect every room of every hotel in the city or town in which he is performing the duty of inspector of buildings or of chief engineer, and to ascertain if the provisions of this act are complied with and to report the condition of the rope or other better appliance to the chief of the district police.

SEC. 3. Any person violating any of the provisions of this act shall be guilty of a misdemeanor, and punishable by a fine of not more than five hundred dollars or imprisonment in the county jail or house of correction for not more than six months, or by both such fine and imprisonment.

SEC. 4. This act shall take effect on the first day of January in the year eighteen hundred and ninety-one.

[ACTS OF 1887.]

CHAPTER 218.

AN ACT to amend Section Ten of Chapter One Hundred and Three of the Public Statutes relating to the Duties and Powers of Inspectors of Factories and Public Buildings.

SECTION 1. Section ten of chapter one hundred and three of the Public Statutes is hereby amended so as to read as follows:—*Section 10.* Such inspectors shall enforce the provisions of sections thirteen to twenty-two, inclusive, of chapter one hundred and four, except as therein specified, and the various provisions of law relating to the employment of women and minors in manufacturing, mechanical, or mercantile establishments, and the employment of children, young persons, or women in factories or workshops, and the ventilation of factories or workshops, and the securing of proper sanitary provisions in factories or workshops; and for this purpose said inspectors may enter all buildings used for public or manufacturing purposes, or for factories or workshops, examine the methods of protection from accident, the means of escape from fire, the sanitary provisions and the means of ventilation, and may make investigations as to the employment of children, young persons, and women.

SEC. 2. This act shall take effect upon its passage.

Previous to the publication of the Tenth Census report, public attention had been drawn, by newspaper comments, to the subject of child labor in factories. The census tables revealed the fact that, while the increase in population between 1870 and 1880 was 30.23 per cent., the increase in the number of those actually engaged in gainful occupations was much greater, showing a marked tendency toward the more universal employment of the people. The census figures are as follows:

TABLE 1.

Number Empl'y'd in all Occupations in 1870.	Increased by 30.23 per cent., the Ratio of Increase in Population.	Actual Number Returned in 1880.	Excess in the Number Employed Over the Normal Increase in Population 10 years of Age and Upward.
12,505,923	16,286,463	17,302,009	1,105,636

“But when we come to analyze the tables as to age and sex, we find a disproportionate increase in the number of women and children employed, as follows:

Number of females in gainful occupations in 1870.....	1,836,288
Increased by the ratio of increase in the female population between 1870 and 1880, viz., 29.03 per cent.....	2,369,362
Actual number returned in 1880.....	2,647,167
Relative excess.....	277,795

“Of this excess, about two-thirds appear in the manufacturing, mechanical, and mining industries, showing the effect upon the employment of women produced by the extension of the factory system.

“As to age, we shall also find that a disproportionate share of the increase falls in the class between 10 and 15 years of age, showing a further effect of the extension of the factory system in the increased employment of young children, thus:

Number of persons of both sexes between 10 and 15 years of age reported in 1870 as in gainful occupations.....	739,164
Increased by 18.65 per cent. the ratio of increase in the population of this age from 1870 to 1880.....	877,018
Actual number reported.....	1,118,358
Relative excess.....	241,338

As to the relative number of males, females, and children engaged in the manufacturing industry, and the ratio of increase in each of these classes during the decade between 1870 and 1880, the following table from the volume on manufactures is instructive:

TABLE 2.

	1870.	1880.	Per Cent. of gain.
Males over 16 years of age.....	1,615,598	2,019,035	24.97
Females over 15 years of age.....	823,770	931,639	64.20
Children and youth.....	114,628	181,921	58.71

This remarkable showing of the census report drew public attention still more forcibly to the problem of child labor. Intelligent people everywhere saw that such a rate of increase meant the taking of more children from school and placing them in factories at an immature age, thereby cutting off their chances for physical and mental development. The problem, thus, immediately assumed the dignity of national importance, entirely aside from the question of justice to the children or sympathy for their lot. If there is one proposition of government more universally accepted by our people than any other, it is that the safety and permanence of republican institutions depends upon the virtue and intelligence of the people. But, children having nothing worthy the name of education, forced into factories at an early age to toil for ten hours each day, can not, save in very exceptional cases, develop into intelligent men and women; yet they are to become an integral part of our people, and the men, at least, who grow from such children are to be, by our theory and practice of government, entrusted with all the important rights and duties of citizenship, equally with the most intelligent persons in the land. We have based our government and public institutions upon the intelligence and virtue of the people. Everything which tends to build up that intelligence and virtue tends to strengthen and perpetuate republican institutions. Everything which tends to destroy that intelligence and virtue tends to break down our institutions. If certain tendencies of our industrial development are found to be at war with the development of the people, is there an argument needed to convince any thoughtful

man that such tendencies should be checked? To illustrate: If it be found that great factories can best be developed, goods cheapened to the public, and the production of certain classes of commodities facilitated and multiplied by applying child labor to improved machinery, does it follow that, in the long run, the people are benefitted thereby? We will admit that goods are made cheaper and more plentiful, but what is the effect upon the children? Are they maimed, crippled, dwarfed, distorted, withered? Will they grow up human manikens, intellectually and physically, or fully rounded men and women? Are they fitted in any degree to take part in the direction of affairs, or must their life long lot be meek obedience? Or can they be trusted with power only at the expense of disaster? Some philosopher has said that "dirt is only matter out of place;" and, so, the multiplication of machinery is not in itself an evil; it is simply, in many cases, a perverted good. We can not afford to destroy our men and women in their childhood for the sake of cheapening commodities. We can not afford to undermine republican institutions, nor profit in any way by tendencies and influences which have their issue in lowering the standard of humanity. If it is well that factories should prosper, it is better that men and women should be developed. Our institutions are more valuable and sacred than the material prosperity of a few individuals. But there is an actual economy to society in the proper training of our industrial population. If any one doubts this let him turn to the testimony of the judges at the Paris Exposition, given in the chapter on "Manual and Technical Training." It will there be seen that nations develop capacity for production, and achieve a leading place in arts and industries more by the education and training of their people than by long hours, child labor, or even advantages of natural resources.

The three subjects of Child Labor, School Attendance, and Manual and Technical Training are so intimately connected that it is difficult to keep them separate even in thought. In fact, we were actuated in choosing these three subjects as the greater part of this year's work by consideration of the fact that any one of them would be incomplete without the others, while the three together form a reasonably complete whole.

When the investigation began it soon became evident that the children had received the impression that our object was to take them out of the factories, if found to be under fourteen years of age, and compel them to go to school. Whether by

instruction or choice it was apparent that some of them were prepared to exaggerate their ages. In some of the states, where factory inspection laws are in force, each child is required to furnish a certificate showing the date of its birth.

It is difficult for us to realize in our young and comparatively undeveloped agricultural state the awful conditions under which children have lived and worked during the present century in England; nor have we gained aught but the faintest realization of the conditions under which thousands of them are living at the present time, in the factory towns of our own country, and in the tenement districts of our great cities. In two papers submitted as prize essays to the American Economic Association, and published in March of the present year (1890,) one by William F. Willoughby, A. B., and the other by Miss Clare de Graffenried, of the U. S. Department of Labor, these conditions, both for England in the past, and America in the present are vividly, and, doubtless, truly set forth.

Miss Graffenried, by virtue of her position as special agent of the U. S. Department of Labor, has been in possession of special advantages, during her travels, for the study of this question in all parts of the country, by direct observation and contact with the conditions of which she speaks. The picture which she draws is a sad one indeed, the only ray being the tendency, according to the testimony of Col. Wright, of child labor to decrease under the operation of factory inspection, a result which he claims is beyond question in his own state of Massachusetts. Any person feeling a special interest in this subject should send for a copy of these essays as we have room for a few questions only.

Speaking of the conditions of child labor in the English mines revealed by the report of the Select Committee for the year 1816 Mr. Willoughby says:

Children of all ages, down to three and four, were found in the hardest and most painful labor, while babes of six were commonly found in large numbers in many factories. Labor from twelve to thirteen and often sixteen hours a day was the rule.

Children had not a moment free, save to snatch a hasty meal or sleep as best they could. From earliest youth they worked to a point of extreme exhaustion, without open-air exercise, or any enjoyment whatever, but grew up, if they survived at all, weak, bloodless, miserable, and in many cases deformed cripples, and victims of almost every disease. Drunkenness, debauchery, and filth could not but be the result. Their condition was but the veriest slavery, and the condition of the serf or negro stood out in bright contrast to theirs. The mortality was excessive, and the dread diseases, rickets and scrofula, passed by but few in their path. It was among this class that the horrors of hereditary disease had its chief hold, aided as it was by the repetition and accumulation of the same causes as first planted its seeds. The reports of all the many investiga-

tions showed that morality was almost unknown. It was not an uncommon thing, in the mines, for men to work perfectly naked in the presence of women; who in turn were bare to their waists, and below covered only by a ragged pair of trousers. In the coal mines the condition of the children was even worse. According to the report of 1842, on Child labor, it was estimated that fully one-third of those employed in the coal mines of England were children under eighteen, and of these much more than one-half were under thirteen. The facts revealed in this elaborate report of over two thousand pages, devoted chiefly to child labor in coal mines, would be scarcely credible if they were not supported by the best of authority, so fearful was the condition of the children found to be. Down in the depths of the earth they labored from fourteen to sixteen hours daily. The coal often lay in seams only eighteen inches deep, and in these children crawled on their hands and feet, generally naked and harnessed up by an iron chain and band around their waists, by which they either dragged or pushed heavily loaded cars of coal through these narrow ways. In nearly every case they were driven to work by the brutal miners, and beaten, and sometimes even killed. Law did not seem to reach to the depths of a coal pit. Thus these young infants labored their young lives out as if condemned to torture for some crime. But it is useless to dwell longer on their condition. Volumes might be filled in portraying their sufferings. Treated as brutes they lived with no regard to morals, religion, education, or health, in a condition that will probably never be duplicated. In the course of time a process of physical deterioration was seen to be at work among the factory population. They were stunted in size, pallid and emaciated. They were scrofulous and consumptive, and had an aptness for every disease. The foundations were rapidly laid for a population, feeble, shortlived, and ignorant, and in all respects debased. The recruiting sergeant already complained that men suitable for the army could not be found in the manufacturing districts.

Where was the boasted freedom of contract of the Political Economists of that day in all this? To the babe of six, bound over to a factory lord, it meant an apprenticeship which left him or her at twenty broken down with consumption, scrofula, or with distorted and crippled limbs, if indeed death had not in the meantime relieved it of its misery. This is, and always has been, the history of employment of children wherever tried.

Speaking of the effects of factory laws in England, Mr. Willoughby says:

The English factory system was one of slow growth and development. One restriction after another was placed upon the employer, until to-day the English laborer is more taken care of by the government than in any other country, Prussia possibly excepted. It can be said of it, as of no other course of legislation, that its results have all been beneficial, not only to the employees, but to the employers as well, as is now generally admitted by them. Its results have more than justified the acts in every particular. In it can be traced the rise of many important principles in the science of the functions of government. It has been of incalculable service to the progress of the lower classes in more ways than in the direct workings of the act itself. This series of acts first established the right of the state to regulate industry. It was the most important advance and attack that has yet been made upon the *laissez faire* doctrine, that "the less government the better," so strongly insisted upon by the old economists. It is interesting to note the change of feeling on the part of this old school of economists. Although every political economist who wrote before 1850 was uncompromisingly opposed to this legislation, not one who has written since 1865 has ventured to deny the advisability of the factory acts.

We feel justified in quoting much of what Mr. Willoughby says with reference to the effect of child labor upon the wages of adults and upon the morale of the family.

The employment or non-employment of children has a bearing of great importance upon many economic questions. From this side of the question comes almost as much interest as from the humanitarian standpoint. It enters as a factor into many of the most wide-reaching and important topics, which determine the welfare of the working classes. The wages question, competition of labor, the profits of the manufacturers, and above all, the standard of comfort of the laboring classes are all largely affected by the employment of children. Its effects on such questions as these furnish the strongest argument for the prohibition of child employment.

To understand clearly how and why the employment of children must necessarily have an injurious effect upon these important questions, of so much consideration to the working class, and to all society, it is necessary to thoroughly understand the true nature and significance of what economists term the "standard of comfort." It is the rule of the standard of comfort, which is the cardinal test, by the light of which all reforms should be judged and interpreted. Any attempt to better the condition of the laboring classes, which does not ultimately raise their standard of comfort, will be useless, and any cause, which tends to lower it, should, if possible, be removed. If the abolition of child labor will not tend to raise the standard of comfort of the working classes, it will be of no avail as a means for bettering their condition.

Ricardo, in his famous Iron Law of Wages,* first drew attention to and imperfectly expressed the economic law which underlies the standard of comfort. This law, as he conceived it, was this: That wages of labor constantly tend to a minimum, which minimum is that which will barely support the life of the laborer and his family that he may have offspring to take his place. Lower than this, it is evident, the minimum can not be, otherwise population will tend to decrease. Ever since the development of the modern industrial organizations, there has been a large and growing class of unemployed laborers, willing and desirous to work at almost any wages, rather than not work at all. It is the presence of this vast supply of labor constantly on hand that gives force to this law of wages, for the knowledge on the part of the owners of production of the supply of cheap labor and the knowledge by the workmen that there are always men to take their places, is the most powerful of all levers to sustain the law, and keep the wages of the employes at a minimum. This is why, in the time of increasing wealth, the laborers have not proportionately advanced in prosperity.

I have said that the Iron Law of Wages but imperfectly expresses an economic law. It is true only as modified by the standard of comfort, in the statement of which the economic law finds its true expression. Long experience has shown that Ricardo's law is not the inexorable law, as supposed by its propounder and its advocates, the followers of Lassalle and Marx. By constant repetition and force of habit the laboring classes have become accustomed to a certain standard or grade of living, which is not in every case, that which will barely support life. Thus, the minimum of wages that an American laborer will accept is far above that of the Chinaman, though, possibly, he could live on that of the latter. "Before he will forego those things, which, by habit, have become necessities to him, he will refuse to work, will inaugurate strikes, riots, and other means, which will endanger the peace and prosperity of the community." It is for this reason that the degraded and worst-paid laborers are not the ones who commence strikes and lockouts, but the more intelligent and higher-paid workers, who have become accustomed to a standard of comfort above that of mere existence, and without which they will not work.† It is here, then, that political economists differ from Marx

*This law was first called the "Iron Law of Wages" by Ferdinand Lassalle, and was the foundation of both his and Karl Marx's socialistic reasoning.

†"As a matter of indisputable fact strikes have not proceeded from the least, but from the most fortunate portion of the working population. It has not been common, but skilled labor that has been concerned. It has not been hopeless misery, but growing ambition, which has prompted nearly all the demands which it has been sought to enforce by the last resort."—*The Manual Laboring Class*, by Prof. F. A. Walker, American Economic Association Publications. Volume III. Number 3, page 14.

and his followers. This law is true only as a tendency. Though the tendency of wages is to a minimum, this minimum is not the bare sustenance of life, but the standard of comfort of each class and nation. This standard is what each nation and class makes for itself. It is evident that the welfare of the masses is directly dependent upon the standard of comfort, and that it marks their real condition, as above this they can not, as a rule, go, restrained as they are by the tendency laid down in Ricardo's Law of Wages. To benefit the laboring classes their standard of comfort must be raised.

It is in this light that Child labor has its greatest interest and importance, and by it alone can be finally determined the real effect of their employment on economic progress. If its influence is to lower the standard of comfort, its harm is incalculable; if its abolition will raise it, it will be a true reform and progress. Let us see what the effect of the employment of children is.

The standard of comfort for a class of people is the result of a slow growth, arising from years of habits and surroundings. Children, when employed in factories, are taken at the earliest possible age, and subjected to very degrading conditions. They are often treated as mere brutes or slaves; and, never accustomed to anything but the very lowest condition of living, comfort, or morality, acquire the lowest standard of comfort. This standard they carry throughout life. It is this class of laborers, who, as they grow up, are willing to work at starvation wages, or just what will barely support them in the condition to which they have been accustomed. Thus they tend to force all labor to their condition. This labor is the worst of pauper labor, and to them the standard of comfort coincides with the minimum of Marx, and his law of wages is an iron law, indeed. If, instead of their factory life, these millions of children had been compelled to attend school, and had acquired some education, and experience of things better than they have had in their factories, can anyone suppose that they would work for what they now do, or submit to the conditions, under which they now live and labor? Their standard of comfort would be much higher, and the lowest class of cheap labor would be removed from our midst. It is the few who are willing to work at low wages that drag the others down to their level. The prohibition of child labor could not operate otherwise than to raise the standard of comfort for a large number of our citizens, thus having a beneficial effect throughout all society. England's supremacy to-day rests largely upon her wise labor laws.

Let us next consider the effect of child labor upon wages, and, more particularly, its influence on the gross earnings of the family. We have seen that in the theory of the standard of comfort is really contained the true law of wages. In the long run, the wage of a class is just what the standard of comfort fixes. Prof. R. T. Ely, in his *Introduction to Political Economy*, says: "It has been the opinion of many of the ablest political economists, for over a century, that what is technically called the 'standard of comfort,' determines the wages of labor. There is so overwhelming an array of facts, gathered from widely separated countries, and from periods so distant from one another, which confirms this conclusion, that it is difficult to resist it." Thus, that which lowers the standard of comfort lowers wages; that child labor lowers wages there can be little doubt; it is, essentially, cheap labor. With improved machinery, it enters as a competitor for work in the same employments, and in the same places and shops with adult laborers. Its wages are, in almost all cases, less than those of adults. Not only does it tend to reduce the wages of adults, but, to a large extent, deprives them of employment. A number of state have made careful collections of statistics of those out of employment, and from these it is found that a much larger per cent. of adults than of children are unemployed. While the children are retained at their lower wages, their fathers are forced into idleness. The employment of children is assigned by these reports as one of the chief causes for the idleness of working men and women.* If child labor could be abolished to-day,

**Massachusetts Labor Report*, 1870, page 56.

there are probably enough adults, out of employment and willing to work, to fill their places.

With the introduction of newer and improved machinery the sphere of the employment of children is constantly widening, and the number of them employed increasing. The inspectors of factories in our states constantly report instances where the wife and children work to support the family, while the father, unable to obtain work, remains idle, or performs the menial work at home.* This reversal of the order of nature is one of the evils of the factory system. The children become old before their time, and independent of parental control; while the fathers, becoming accustomed to living on wages of others, rapidly become pauperized, as under the old poor laws of England. As the children grow up, they, in turn, follow the fate of their fathers. The Associated Charities, in the last few years of their vigorous history, have been in a position to, and have investigated carefully the causes of idleness and pauperism; and it is the expressed opinion of those at the head of this work, that child labor, as much as any other single cause, is responsible for this poverty, by its early breaking down the health of the laborers, and the throwing out of employment of the adults. The age at which the greatest amount of labor should be performed is thus unnaturally placed in weak youth, instead of strong middle age. What more uneconomical system of labor could be devised.

More important to the laborers themselves than their individual earnings is the effect of child labor on the gross earnings of the family. The wages of the family is the true gauge of the condition of its members. It is of the utmost importance to clearly understand the exact relation which the employment of children bears to the family income, for it is this point which has prevented a more hearty co-operation of the laborers themselves for its abolition. Though generally admitting that their wages may be lowered somewhat by their children's employment, they have held that they were more than compensated by the earnings of the child. This is a fallacy. The admitted law is, as we have seen at the beginning of this chapter, that the whole family would, on the average, be kept by the wages of its head at the standard of its class, handing on the same lot to an equal number of offspring. But when women and children are brought in with their labor force, to compete against the labor of the men, the whole family together earns, on an average, no more than the father would earn, if they were not allowed to enter the field against him. "These men can not work for less than that which will furnish them and their family a living, if he alone were allowed to work; but, if his children also can work, in their desperate struggle for existence, they will work for just as much less as their children can earn, as, on the gross earnings, the family can now live at the standard to which they have been accustomed."

Prof. Richard T. Ely, in his *Introduction to Political Economy*, says:

"Among the striking evidences of the truth of the standard of life, as the norm for wages, the fact is especially noteworthy that, as a rule, it seems to fail to benefit the laboring population on the whole, and for any length of time, for the wife and children to earn money, even apart from all other considerations than mere money getting. The world over, when it becomes customary for the wife, or wife and children, to work in factories, it very soon becomes necessary for them to do so to support the family. The wages of the head of the family and the earning of the entire family, as before, just maintain the standard of comfort among that class of the population. Prof. E. W. Bemis has called attention to the fact that in the textile industries of Rhode Island and Connecticut, where the women and children work, the earnings of the entire family are no larger than in other industries, like those in metal, in western Connecticut, where only the men work."

The inspector of Factories for New Jersey, in his *Second Annual Report*, 1884, page 19, says: "The employment of children has increased with the reduction of wages, and the employment of adults has decreased with the employment of children."

As this is a consideration of the utmost importance, involving the interest of the whole laboring class, and, that we may see that it has the weight of the authority of others besides political economists, I will

*See for example, "Fall River, Lowell, and Lawrence" (an extract from *Thirteenth Massachusetts Labor Report*,) page 11; also *Ohio Labor Report*, 1887, page 9.

quote in full the language of our most distinguished statistician, Hon. Carroll D. Wright, as contained in the *Sixth Annual Report of the Bureau of Labor of Massachusetts*, which bears directly upon this point. He says, pages 51, 384, and 385:

"There seems, within recent times, to have occurred a change in the relation of wages to support, so that more and more, the labor of the whole family becomes necessary to the support of the family; that, in the majority of cases, workmen in the commonwealth do not support their families by their individual earnings alone. The fathers rely, or are forced to depend, upon their children for from one-quarter to one-third of the entire family earnings, and the children, under fifteen years of age, supply by their labor, from one-eighth to one-sixth of the total family earnings. It is likely that if, by compulsion, the children of the state be taken from work and put into school, there will be individual cases of suffering and hardship, but these will only be temporary. The rate of wages, after a little time, will readjust themselves to the new state of things, and the same amount of money, or a somewhat near approximation to it, will be earned by the head of the family, as is now earned by him in conjunction with his children. To illustrate this a little more fully, we may suppose that, at a certain time, in a certain community, a condition of affairs obtains such as insures that the labor of the husband shall be sufficient for the maintenance of the family, the wife cares for the household, the children are under preparation for the duties of man and womanhood. The manufacturer, all at once, is struck with what we may call a new idea. He discovers that he may lessen the cost of production, and thereby undersell and outsell his rivals in the trade by employing young people—we will say, sixteen years of age. He sees that they will be as efficient auxiliaries to his machines, for three-fourths of his work, as men. He can hire them for a dollar a day, while he is obliged to pay men two dollars. Animated with this idea, he promptly reduces it to practice. But the secret of this low cost of production can not be kept. His competitors learn of it and imitate it. It spreads in all directions. Large numbers of men are thrown out of employment, yet, they must have sustenance; so, they say to the manufacturer, if you can not give two dollars a day, give me a dollar and a half, there are some parts of your work for which I am more competent than a young fellow of sixteen. I think I should be worth to you for that work a half a dollar more than he is. So a portion of the men are retained, and are comforted for the decrease in their earnings by the reflection that the wages of their children make up the loss. But competition is not content even now. It is discovered by some enterprising manufacturer that children of ten and twelve can do many parts of his work as well as men did them once or as young people of sixteen do now. So a certain number of the latter are displaced, and children, whom he can hire for fifty cents a day, substituted. Indirectly, this operates to displace some adults also, and they and the youth find that those of them who can have employment at all, must be content with less wages, so a dollar and a quarter and seventy-five cents is offered to each, respectively, and by each accepted. This seems to us a fair statement of the manner in which the introduction of child labor tends to the decrease of men's wages, and the relegation of large numbers of them for portions of the year to idleness."

We quote the following paragraphs from Miss Graffenried's paper:

However handsome and well equipped are some paper box establishments, the rule is that when a house is tumbling down and has become such a wreck that few companies will insure it, the box manufacturer pounces upon the structure and adds to the dirt of years the refuse of his shop day by day until the trash is a foot deep over the unsafe floors. The ceilings are low and begrimed, the light not unfrequently inadequate. Each worker is then provided with an oil lamp whose smoke and fumes combined with the odors of the glue pot and neglected water-closets to make the close room more hurtful. Piles of inflammable paper and stacks of boxes await but a spark to kindle a fire that would sweep the building before the dazed inmates could rush to the dark and dangerous stairs, only to find the way barred by packing-cases. In such death-traps thousands of children labor.

In the packing houses:

"Not uncommonly a woman comes to work at four in the morning and remains till eight at night, her brood beside her in cramped positions without change or motion, breathing the air exhaled by six hundred pairs of lungs, and the emanations of as many bodies unused to soap and water. Indescribable is the assemblage; every tongue is heard; oaths in all languages resound, tobacco adds its poison. Women of eighty, yellow, tottering, and emaciated are carried there and propped against the wall; babies scream, hungry and tired children fret. At least one fifth of these workers are less than twelve years old; and the occupation being intermittent, the gain is often small.

In the tobacco industry:

The quarters where tobacco is stripped from the stem are sometimes located in a damp basement, musty with mould or lurking miasma; sometimes in lofts on which the sun beats unsparingly, sometimes in spacious, tightly closed rooms furnished either with benches along the walls, or "pens" thickly placed about the floor. These pens are just what the name imports—spaces from four to six feet square boarded off by partitions varying in height. Within each pen are a low bench, a pile of tobacco leaves, and from one to three workers. Sisters may be "partners," or an old woman and a young child, or a mother and two little ones, often a boy and girl alone together. The indignity of being penned off like cattle is not diminished by the presence of overseers, who, while sometimes intelligent and kind, are as often ignorant, tyrannical, profane. The mere sight of these dirty, brutal creatures ordering the daily lives of helpless women and young children kindles disgust and indignation.

The poison of the weed and the degrading conditions in the poorer work-rooms invite a class excluded from respectable places—besotted hags trembling on the brink of an unholy grave, debauched women, hardened and hungry children from the street, off-spring of crime, homeless and friendless, if not already vile. This type of the working girl represents the lowest ebb of fortune, womanhood brutalized and revolting, childhood stamped with hereditary sin and disease, bereft of decency, without restraint.

Sallow faces, skin begrimed with tobacco dust, hair matted, garments stained—these are the sign manual of the average tobacco stripper. The children wear their saturated garments into the street, covered by that pathetic badge of thriftless poverty, a blanket shawl, telling its tale of rags and penury, better raiment sent to pawn, drink absorbing the last nickel. The little ones carry all the filth of the day's occupation into their home—into their bed, even, for they generally sleep in the clothes worn at work. By night as by day the same fumes are breathed, and if the child lives to maturity, at thirty she is a broken-down, nervous, diseased old woman. The extent of this exposure of childhood to injurious toil may be imagined when it is remembered that, except in the dry goods and textile industries, more workers from seven to 14 years of age are employed at tobacco than in any other pursuit. In many localities over 37 per cent. of the wage earners are young children, girls being more numerous than boys.

Of the facts about cigar-making as carried on in some tenement-houses, the public has but faint idea. The background of the worst tenement-house practices cannot in common decency be plainly represented. A block seething with human life, four, five, six, and eight floors in each house; a second building rearing its squalid front behind the first, and a third behind the second; from eight to fifty families in one dwelling, from six to sixteen persons in each family; about two hundred souls herded into a space 14x40 feet, five stories and more, toppling skyward. Steep, often winding stairs in absolute darkness; sinks and closets contaminating the air at every landing; bedrooms 8x8 feet—mere dark cuddies, with only a square hole opening upon the black, unventilated halls, and each cuddy slept in by from two to eight persons, irrespective of sex. The kitchen is the living, eating, washing, cooking, sleeping, and working-room, where dirty children, cats and dogs disport. Here is brought tobacco for the whole household to work up, and every family in the huge structure must engage in this occupation or be turned out of their home. Parents and older sons and daughters roll cigars while the younger prepare the weed, even the school children being compelled to work in the afternoons and far into the night. Pale and feeble little souls of six and seven strip the stems during hot summer days. The writer beheld a baby girl of five years seated on a dirty lounge strewn with tobacco leaves, from which she was made to tear out the midrib, the parents working at a table beside her. In other tenements infants crawl in leaves scattered over the floor to dry, playing with and sucking them. Tobacco is spread out in bedrooms, on the soiled bed itself, on the kitchen table. Children delve in it, roll in it, sleep beside it. The dust seasons their food and be-

fouls the water they drink, and the hands of the mother are seldom washed when she leaves the cigar table to prepare meals or nurse her babe. In the cellar of the building the discarded stems rot, breeding pestilent vapors. Day after day, year after year, children are born into this poisoned air, take it in with mother's milk, wilt and die in it, or live through puny, wailing infancy into abnormal childhood, predestined to nervous excitation, disease, and depravity.

As to sanitation:

Structures on which hundreds of thousands of dollars have been expended are grossly defective as to drainage, closets, and sinks. Mills, otherwise models as to management, emit from their tower toilets sickening odors. In scores of large shops which the writer has visited, it is scarcely exaggerated to say of the stench from the closets, that "it almost knocked one down." Smaller, more crowded work-rooms sin quite as frequently, presenting besides conditions fatal to modesty. Closets for the two sexes generally adjoin with but a thin partition between, or the one box-like affair is used indiscriminately by males and females. It is unusual to find these conveniences placed away from the working quarters, or screened in any manner, and a single one must often suffice for a hundred men and women. In some buildings the retiring-rooms disfigure the landings and the odors penetrate the whole edifice; again, the cellar or basement becomes almost a cess-pool. Hand in hand with the criminal negligence of employers goes the almost equally criminal indifference of the workers, who, from fear and ignorance as well, seldom complain to the health authorities.

The following table is instructive as showing the age at which children begin work in the southern factories:

BEGAN WORK.

TABLE 3.

	4 years.	5 years.	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	Total.
Spinning mill.....	..	..	..	2	4	2	2	1	3	..	14
Athens.....	..	..	..	2	6	6	7	5	5	4	35
Columbus.....	..	2	1	5	6	8	10	4	12	3	51
Macon.....	..	..	..	2	6	9	5	3	4	1	30
Augusta.....	1	..	5	8	12	17	16	8	12	12	91
Total.....	1	2	6	19	34	42	40	21	33	20	221

PRESENT AGE.

	4 years.	5 years.	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	Total.
Spinning mill.....	1	1	..	..	1	3	6
Athens.....	1	1	..	4	4	10
Columbus.....	1	..	1	4	3	4	13
Macon.....	3	4	4	11
Augusta.....	1	..	2	2	4	7	16
Total.....	3	2	4	9	16	22	56

The seeming discrepancy between the number registered as beginning work at from four to twelve years old and the total number within those age limits recorded as actually employed is less paradoxical than it appears, and by no means indicates the exclusion from southern mills of

little ones too young to labor. As many infantile toilers work there as when those now adults first touched the heavy frames with baby fingers. These children are, however, disclaimed as regular employes, and are considered only helpers to some older person, their names not appearing on the pay-rolls.

As to the degree of illiteracy Miss Graffenried says:

Inseparable from conditions of this character is a degree of illiteracy among the white industrial population of the south astounding as it is deplorable. To those who have made no study of the subject it seems incredible that every second girl or woman in textile occupations neither reads nor writes.

A little girl of twelve commenced labor at seven, dimly recollecting school at five or six years, but learning nothing. Another aged eleven began toil at nine and was at school three months. A maiden fifteen, working when eleven, cannot read or write and had no teaching. A child of eleven, already employed a year, had two scant sessions of fruitless tuition, but is illiterate and ignorant where she was born, though still residing in her native city. A girl of twenty whose mother was dead, aided by a sister eleven years old, supported a family of six. The sister worked at eight years old and the father only does "their gardenin'," the garden being a patch not much larger than a bed quilt. The elder reads a little but cannot write; the younger never was at school. Another victim twelve years of age began toil at eight, reads monosyllables, is unable to write; with two other children she maintains the household, the father refusing even to bring their dinner to the mill. An infant of eight summers began factory life at five years old, and has worked in two towns; there are three employed in the family besides herself, and she uses snuff which her mother provides. One poor little waif cannot speak plainly. She commenced to spin before her seventh birthday, and says: "A picnic I be twelv' yur ole." Never taught anything, her parents with six children all living in one room, this child is barefooted, ill, torpid, and snuff-soaked.

Speaking of the effects of factory work upon health, she says:

Consumption sweeps the ranks of mill operators with a positive ferocity. Girls of thirteen to fifteen fade away in feebleness and pain, pierced by the icy winds, overheated in steaming rooms, ill clad, badly nourished, and overtasked. Two or three sisters follow each other quickly to the grave before reaching woman's estate, victims of fatal lung maladies or poisoned by typhus. The managers of working girls' clubs find it necessary to provide a refuge for members doomed to dissolution at fifteen, sixteen, and twenty years, in whom the seeds of disease were sown by premature toil.

Nor are such scourges the saddest phase of protracted and unguarded child labor. The New York Report of Factory Inspectors for 1888 dwells on the distressing "tale of children crippled for life by machinery, which they should not be permitted to approach, much less control. Their bleeding, mangled arms, legs and bodies are terrible witnesses of the cruel system which makes their play-time the time of toil and danger. 'Carelessness,' says the manufacturers. Carelessness, not of the children, but of the law-makers to permit the helpless little ones to be dragged or driven into these grinding mills of destruction; worse than carelessness on the part of employers who see child after child crushed between the champing dies of the power presses, and yet take no step to prevent recurrence of these accidents.

"What care they for the battalions of cripples turned loose upon the world? But the law, the government, should care. It is its most sacred duty to step in and save the weak and helpless from being deprived of their limbs. No child should be employed around a machine or factory where natural lack of foresight or caution will lead it into danger. * * * A child is not supposed to be endowed by nature with a cautious, discriminating disposition or a thorough knowledge of the dangerous qualities of machinery. When an employer, in order to obtain the benefit of a cheaper class of labor, hires children to do work which men alone should

do, he ought to be made to pay dearly for whatever loss the child may suffer. * * * It is wrong from any standpoint, moral or legal, to employ a child at a machine where, should he turn his head to the right or left, or neglect to press his foot upon a lever, the loss of an arm or finger is the penalty."

In *The Christian Union*, May 2; 1889, discussing "Factory Conditions in New York City," Miss Clara Potter says: "In an excellently ordered card factory, of which the girls have no complaint to make, a young friend of mine saw a companion's hand taken off at the wrist and drop to the floor by the press she was working at." Girls state privately "the firm don't like it if you make much of a time about such things." Miss Potter continues: "In a large pencil factory, where children are employed to feed the pencils into a machine which smooths and shapes them, great dexterity is needed to prevent the fingers from being caught. Constantly children lose a finger, a joint, or the end of several fingers, but no notice is taken of these accidents, nor are the little ones paid while suffering from injuries and unable to work. They are employed at their own risk."

Said the bookkeeper in large print works lately to the writer: "We boiled a boy the other day." In response to a shiver of horror, he went on: "His work took him inside one of our big machines in which colors are set. The steam was turned on without anybody looking to see whether he had come out at the proper time. He was missed later, and at last found within, dead. It is supposed he fell in a fit."

At the last National Convention of chiefs and commissioners of Bureaus of Labor Statistics, held in Hartford, Connecticut, June 25-27, 1889, a committee was appointed to consider and recommend to the different bureaus some subject of universal interest for investigation by each of them. The committee recommended the subject of "child labor." Previous to receiving the report of the committee, which was not made until some months after the time of holding the convention, we had prepared a schedule of questions for the investigation of child labor. Upon receiving the report of the committee we added two questions to the schedule and forwarded a sample to Col. Wright, of the National Labor Department, who was a member of the committee, and is recognized everywhere as an authority upon statistical matters. He wrote us that he had nothing further to suggest; that the schedule was very comprehensive and complete. Upon beginning the investigation it was soon found that no information could be had upon the points which the two additional questions covered, namely, whether the child had taken the place of an adult, and how much wages had been paid the adult. The children were invariably ignorant upon these points. I regret this, as they were among the most important points to be covered by the inquiry, it being intended to bring out the fact as to the degree in which child labor was supplanting adult labor, and to what extent the wages of the adult exceeded that of the child who replaced him. It was finally decided to drop the two additional questions, and confine ourselves to the eighteen points contained in the origi-

nal schedule. We succeeded in securing fairly satisfactory answers to all of these questions and the tables are the result.

It is apparent, however, that the change from adult to child labor is not so much a process of direct displacement as one of subdivision and rearrangement of labor, due to the introduction of machinery which could be managed so easily that children could be put in charge of it. By this machinery complex operations which formerly required the intelligence of adults are reduced to simple operations easily performed by children.

The custom of employing children in factories has not become so prevalent in Minnesota as in many of the Eastern, Southern, and Central States. Less than half a dozen establishments in this state are distinctively operated by child labor. Nothing short of a census inquiry can reach the great bulk of the children employed, for they are so scattered and isolated that a special inquiry extending over a few months, and carried on by a force of two or three men can not ferret out more than a fraction of them. As in the case of school attendance, we may reasonably conclude that the conditions which obtain for a considerable number of juvenile workers, taken at random, will be found substantially the same for the whole number. Our inquiry covers but a few of the large cities where numbers of these children can be reached in a single establishment and on the streets.

The great manufacturing and mechanical industries of this state are not of the class wherein child labor can be, to any great extent, profitably employed. Nevertheless, it is apparent, that the lighter industries are developing, and with their development we may expect to see an increase in the number of children employed unless strong measures are taken to prevent it.

TABLE 6.—Continued.

	Baker.	Elevator Foreman.	Peddlers.	Baggage man.	Upholsterer.	Glazier.	Iron Moulder.	Hotel Keeper.	Watchman.	Butcher.	Lumberman.	Real Estate Agt.	Livery Stable Man.	Kalsomner.	Pressman.	Manager Fibre Wks.	Janitor.	Wagon Maker.	Miller.	Bar Tender.	Tent Maker.	Head Sawyer.	Clothing Cutter.	Pattern Maker.	Miner.
Shoe factories.....																									
Peddling.....			2																						
Teamster.....						1																			
Chair factories.....																									
Beer bottling.....																									
Upholstering factories.....																									
Blacksmith shops.....																									
Cooper shops.....																									
Horse collar factories.....																									
Machine shops.....																									
Tinware factories.....																									
Office boys.....							1																		
Box factories.....																									
Paper hanger's apprentice.....																									
Cigar factories.....																		1							
Harness factories.....																									
Book binderies.....																									
Plow works.....																									
Cash boys.....							1	1				1					1		2	1	1	1	1	1	1
Planing mills.....								1										1							
Printing offices.....								1																	
Press feeders.....																									
Furniture factories.....									2																
Telegraph messengers.....																			1	2					
Clerks.....																									
Painter's apprentices.....																									
Trunk factories.....																									
Bakers and confectionaries.....	2										2	1													
Errand boys.....												1													
Water boys.....																									
Boot blacks and newsboys.....	2	3	1	2	1	1	1	2			3	1	1	1											
Paint works.....																									
Excelsior water mfg.....																									
Bag factory.....																									
Mattress factory.....							1																		
Fence manufacturers.....								2																	
Stove works.....																									
Wire goods factories.....									1																
Burial casket works.....																									
Woolen mills.....																									
Rattan works.....																									
Bell boys.....																									
Saw mills.....											1														
Pottery works.....																									
Plumber's apprentice.....																									
Fibre works.....																1	1								
Tub factory.....																									
Flour mill.....																									
Plating works.....																									
Totals.....	2	2	5	1	2	2	2	4	9	2	6	2	1	1	1	1	1	2	3	3	1	1	1	1	1

TABLE 6.—Continued.

	Millwright.	Gasfitter.	Newspaper Foreman	Plumber.	Fireman Stat'y Eng.	Canvasser—Books.	Wood Turner.	Boiler Maker.	Oil Inspector.	Telegraph Operator.	Photographer.	Sup't of gas works.	Fence maker.	Foreman woolen mill	Lime kiln man.	Fireman loco engine	Potter.
Shoe factories.....																	
Peddling.....																	
Teamster.....																	
Chair factories.....																	
Beer bottling.....																	
Upholstering factories.....																	
Blacksmith shops.....																	
Cooper shops.....																	
Horse collar factories.....																	
Machine shops.....																	
Tinware factories.....																	
Office boys.....																	
Box factories.....																	
Paper hanger's apprentice.....																	
Cigar factories.....																	
Harness factories.....																	
Book binderies.....																	
Plow works.....																	
Cash boys.....																	
Planing mills.....		1															
Printing offices.....			1														
Press feeders.....																	
Furniture factories.....				1	2	2	1										
Telegraph messengers.....								3	1	1	1						
Clerks.....																	
Painter's apprentices.....																	
Trunk factories.....																	
Bakers and confectionaries.....																	
Errand boys.....																	
Water boys.....																	
Boot blacks and newsboys.....												1					
Paint works.....																	
Excelsior water manufacturing.....																	
Bag factory.....																	
Mattress factory.....																	
Fence manufacturers.....														2			
Stove works.....																	
Wire goods factories.....																	
Burial casket works.....																	
Woolen mills.....				1											1		
Rattan works.....																	
Bell boys.....																	
Saw mills.....																	
Pottery works.....																1	1
Plumber's apprentice.....																1	2
Fibre works.....																	
Tub factory.....																	
Flour mill.....																	
Plating works.....																	
Totals.....	2	1	1	2	2	2	1	3	1	1	1	1	2	1	1	1	2

TABLE 7.

Boys.—Showing Age at Commencing Work—for the State.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Shoe factories.....					1	3	9	27	20	2		62
Peddling.....		2		1	2	1	2					8
Teamsters.....							2	2				4
Chair factories.....								1				1
Beer bottling.....								1				1
Upholstering factories.....								2				2
Blacksmith shop.....										1		1
Cooper shops.....							1	4	5	1		11
Horse collar factories.....									1	1		3
Machine shops.....									1	1		2
Tinware factories.....					5	3	15	18	11	3		55
Office boys.....												3
Box factories.....						1	2	5	8	1		17
Paper hangers' apprentices.....						1						1
Cigar factories.....						3	5	7	6	1		22
Harness factories.....					1							2
Book binderies.....						1	2	5		3		11
Plow works.....									2			3
Cash boys.....				4	25	31	29	30	6	3		128
Planing mills.....					1	5	7	12	27	6		62
Printing offices.....							2	13	3	2		29
Press feeders.....							3	3	3	1		8
Furniture factories.....						1	7	12	21	5		45
Telegraph messengers.....			2	4	1	3	9	18	13	9	1	60
Clerks.....								1	1	3	1	6
Painters' apprentices.....					1			1	3	1		5
Trunk factories.....						1						2
Bakers and confectionaries.....							1	5	7	3		16
Errand boys.....					3		6	12	4	1		26
Water boys.....					1			1	1			3
Boot blacks and newsboys.....	10	13	36	24	30	27	12	10	5	2		169
Paint works.....						1						1
Excelsior water manufacturing.....							1					1
Bag factory.....								1	2	3	1	7
Mattress factory.....									2	1		4
Fence manufactories.....						2	2	1		1		6
Stove works.....							1		2			3
Wire goods factory.....								2		3		5
Burial casket works.....								1		1		2
Woolen mill.....						1	2	5	4	1		13
Rattan works.....								2	2	1		5
Bell boys.....								1		1		2
Saw mills.....						2	7	6	1			16
Pottery works.....					1	3	6	2	4	2		18
Plumbers' apprentices.....								1				1
Fibre works.....								1	3	3	1	8
Tub factory.....					1	2	3	3	3			12
Flour mill.....									1			1
Plating works.....									1			1
Totals.....	10	15	38	33	73	89	135	222	190	66	3	874

TABLE 8.

*Boys.—Showing Months of Employment and School Attendance During Year—
for the State.*

	No. Boys.	No. months worked.	Average No. months worked.	No. months school Attendance.	Average No. months school Attendance.
Shoe factories.....	62	564.9	9.1	111.6	1.8
Peddling.....	8	85.6	10.7	16.8	2.1*
Teamster.....	4	26.0	6.5	17.2	4.3
Chair factories.....	1	1.0	1.0		
Beer bottling.....	1	12.0	12.0		
Upholstering factories.....	2	24.0	12.0		
Blacksmith shops.....	1	8.0	8.0	4.0	4.0*
Cooper shops.....	11	99.0	9.0	5.5	.5
Horse collar factories.....	3	36.0	12.0		
Machine shops.....	2	18.0	9.0	6.0	3.0
Tinware factories.....	56	495.0	9.0	93.5	1.7
Office boys.....	3	30.0	10.0	6.0	2.0
Box factories.....	17	159.8	9.4	17.0	1.0
Paperhanger's apprentices.....	1	1.0	1.0	9.0	9.0
Cigar factories.....	22	211.2	9.6	33.0	1.5
Harness factories.....	2	24.0	12.0		
Book binderies.....	11	124.3	11.3	36.3	3.3*
Plow works.....	3	27.0	9.0	8.1	2.7
Cash boys.....	128	832.0	6.5	460.8	3.6
Planing mills.....	62	620.0	10.0	186.0	3.0*
Printing offices.....	29	278.4	9.6	49.3	1.7
Press feeders.....	8	96.0	12.0		
Furniture factories.....	45	369.0	8.2	112.5	2.5
Telegraph messengers.....	60	480.0	8.0	162.0	2.7
Clerks.....	6	27.0	4.5	30.6	5.1
Printer's apprentices.....	5	40.5	8.1	5.0	1.0
Trunk factories.....	2	24.0	12.0	6.0	3.0*
Bakeries and confectionaries.....	16	152.0	9.5		
Errand boys.....	26	205.4	7.9	52.0	2.0
Water boys.....	3	27.9	9.3	6.9	2.3
Boot blacks and newsboys.....	169			490.1	2.9
Paint works.....	1	9.0	9.0	3.0	3.0*
Excelsior water manufacturing.....	1	12.0	12.0		
Bag factories.....	7	84.0	12.0	14.0	2.0*
Mattress factories.....	4	36.0	9.0	6.0	1.5
Fence manufactories.....	6	33.0	5.5	18.0	3.0
Stove works.....	3	36.0	12.0		
Wire goods factory.....	5	60.0	12.0	3.0	.6*
Burial casket works.....	2	22.0	11.0	2.0	1.0*
Woolen mill.....	13	140.4	10.8	23.4	1.8*
Rattan works.....	5	60.0	12.0	8.0	1.6*
Bell boys.....	2	24.0	12.0		
Saw mills.....	16	80.8	5.6	41.6	2.6
Pottery works.....	18	154.8	8.6	46.8	2.6
Plumbers' apprentices.....	1	2.0	2.0	8.0	8.0
Fibre works.....	8	96.0	12.0		
Tub factory.....	12	117.6	9.8	14.4	1.2
Flour mill.....	1	12.0	12.0		
Plating works.....	1	10.0	10.0	2.0	2.0*
Totals and general averages.....	874	6,097.4	8.6	2,115.4	2.6

*The apparent excess of time is due to attendance at night school.

TABLE 9.

Boys.—Showing Educational Condition—for the State.

	Can read.		Can write.		Can add.		Can subtract.		Can multiply.		Can divide.		Can work in fractions.	
	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.
Shoe factories.....	51	11	59	12	50	12	48	14	42	14	29	33	10	52
Peddling.....	6	12	5	3	5	3	4	4	5	3	4	4	4	8
Teamsters.....	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Chair factories.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Beer bottling.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Upholstery factories.....	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Blacksmith shops.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cooper shops.....	9	2	9	2	9	2	9	2	9	3	4	7	1	10
Horse collar factories.....	3	3	3	3	3	3	3	3	3	3	3	3	1	2
Machine shops.....	3	3	3	3	3	3	3	3	3	3	3	3	1	2
Tinware factories.....	54	1	54	1	42	13	37	17	36	19	13	36	9	46
Office boys.....	3	3	3	3	3	3	3	3	3	3	3	3	1	2
Box factories.....	14	3	14	3	14	3	14	3	13	4	9	8	4	13
Paper hanger's apprentice.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cigar factories.....	21	1	21	1	29	2	19	3	15	7	11	11	3	19
Harness factories.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Book binderies.....	11	1	11	1	11	1	11	1	11	1	10	1	3	8
Plow works.....	3	3	3	3	3	3	3	3	3	3	3	3	1	2
Cash boys.....	125	2	125	3	119	9	118	10	116	12	99	29	40	88
Planing mills.....	52	10	50	12	45	17	44	18	39	23	24	38	7	55
Printing office.....	29	28	1	27	2	27	2	26	3	22	7	8	21	21
Press feeders.....	8	8	8	8	8	8	8	8	8	8	7	1	2	6
Furniture factories.....	44	1	43	2	39	6	39	6	39	6	35	10	6	39
Telegraph messengers.....	59	1	59	1	54	6	54	6	54	6	54	6	38	23
Clerks.....	6	6	6	6	6	6	6	6	6	6	5	1	4	2
Painters' apprentices.....	5	5	5	5	5	5	4	1	4	1	5	5	5	5
Trunk factories.....	2	2	2	2	2	2	2	2	2	2	1	1	1	2
Bakeries and confectionaries.....	11	5	11	5	10	6	10	6	10	6	9	7	1	15
Errand boys.....	25	1	24	2	22	4	20	6	19	7	16	10	5	21
Water boys.....	3	3	3	3	3	3	3	3	3	3	2	1	3	3
Boot blacks and newsboys.....	151	18	128	41	93	76	90	79	88	81	61	108	29	140
Paint works.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Excelsior water manufact'y.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bag factory.....	6	1	6	1	6	1	6	1	6	1	6	1	7	7
Mattress factory.....	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Fence manufactories.....	5	1	5	1	3	3	3	3	3	3	3	3	6	6
Stove works.....	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Wire goods factory.....	5	5	5	5	5	5	5	5	5	5	5	5	1	4
Burial casket works.....	2	1	1	1	2	2	2	2	2	2	2	2	4	2
Woolen mill.....	12	1	11	2	9	4	9	4	9	4	9	4	5	8
Rattan works.....	5	5	5	5	5	5	5	5	3	2	5	5	5	5
Bell boys.....	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Saw mills.....	11	5	11	5	10	6	8	8	7	9	16	3	16	16
Pottery works.....	18	18	18	18	18	18	17	1	17	1	15	3	8	10
Plumber's apprentice.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fibre works.....	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Tub factory.....	12	12	11	1	11	1	11	1	10	1	10	2	9	3
Flour mill.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plating works.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	807	67	773	101	693	181	674	200	653	221	503	371	210	664

TABLE 10.

Girls.—Showing Number and Ages of Children—for the State.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Tinware factories.....								3	9	2	1	15
Shoe factories.....								1	4	2	3	16
Laundries.....								1	5	6	1	13
Cash girls.....					1		5	2	3	3	1	15
Cracker factories.....										1	1	2
Cigar factories.....										3		3
Book binderies.....										1		1
Copyists.....								1	1			2
Dressmaker's apprentice.....										1		1
Box factories.....									3			3
Bag factories.....										4	1	5
Bakeries and confectionaries.....										5	6	11
Knitting works.....										1	2	3
Peddling.....			1									1
Errand girls.....							1					1
Fibre works.....									1	2	1	4
Book-keeper's assistant.....											1	1
Totals.....			1		1		6	8	27	36	22	101

TABLE 11.

Girls.—Showing Number of Children, Average Hours of Work per Week, Average Weekly Wages, and whether Parents are Living or Dead—for the State.

	No. of girls.	Average hours work per w.k.	Average w'kly wages.	Father living.	Father dead.	Mother living.	Mother dead.	Parents both dead.
Tinware factories.....	15	60	\$2.27	11	4	14	1	
Shoe factories.....	16	60	3.15	15	1	16		
Laundries.....	13	60	3.19	10	3	13		
Cash girls.....	15	57	2.30	12	3	13	2	
Cracker factories.....	2	59	3.75	1	1	2		
Cigar factories.....	3	54	3.75	2		2		
Book binderies.....	2	59	4.00	2	1	2		
Copyists.....	1	48	3.00	1		1		
Dressmaker's apprentice.....	1	60	2.00	1		1		
Paper-box factories.....	8	60	3.19	6	2	7		
Bag factories.....	2	60	4.00	2		1	1	1
Bakeries and confectionaries.....	11	60	3.60	10	1	11		
Knitting works.....	3	56	2.67	1		3		
Peddling.....	2				2	2		
Errand girls.....	1	60	4.00	1		1		
Fibre works.....	5	60	2.88	5		5		
Assistant book-keeper.....	1	60	4.60	1		1		
Totals and general averages.....	101	59	\$2.99	81	20	96	5	1

TABLE 12.

Girls.—Showing Occupation of Father—for the State.

	Laborer.	Not Specified.	Dead.	Carpenter.	Shoemaker.	Engine Wiper.	Stone Mason.	Cabinet maker.	Stone Cutter.	Moulder.	Plasterer.	Locomotive Engineer.	Teamster.	Bricklayer.	Bartender.	Watchman.	Tailor.	Stationary Engineer.	Lumberman.	Office Clerk.	Farmer.	Merchant.	Gardener.	Musician.	Total.
Tin factories.....	9	1	4		1																				15
Shoe factories.....	6	1	1	1	3		1	1			1	1													16
Laundries.....	6	2	3	1																					13
Cash girls.....	5		3	1	1											1	1	1	2						15
Cracker factories.....	1	1	1																						3
Cigar factories.....	1	1	1																						3
Book binderies.....	1	2																							3
Copyists.....	1																								1
Dressmaker's apprentice.....	1	1																							1
Box factories.....	3		2										1	1	1										3
Bag factories.....	3		2																						3
Bakeries & confectionaries.....	6			1															1	1	1		1		11
Knitting works.....		2	2						1																3
Peddling.....		2																							2
Errand girls.....	4				1																		1		5
Fibre works.....					1																				1
Book-keeper's assistant.....																									1
Totals.....	45	9	17	5	4	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	101

TABLE 13.

Girls.—Showing Age at Commencing Work—for the State.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Totals.
Tin factories.....							4	7	4			15
Shoe factories.....							2	5	7			16
Laundries.....							1	6	6			13
Cash girls.....					1	1	6	3	3	1		15
Cracker factories.....												2
Cigar factories.....								1	2			3
Book binderies.....						1	1					2
Copyists.....									1			1
Dressmaker's apprentice.....									1			1
Box factories.....							3	3	1	1		3
Bag factories.....								1	1	1		3
Bakeries and confectionaries.....								3	5	1	2	11
Knitting works.....									3			3
Peddling.....				1		1						3
Errand girls.....									1			1
Fibre works.....							1		2			3
Book-keeper's assistant.....										1		1
Totals.....			1		1	3	18	28	38	9	3	101

TABLE 14.

Girls.—Showing Months of Employment and School Attendance During Year—for the State.

	Number children	Average Mo. employ- ment during year.	Average Mo. of school attendance during year.
Tin factories.....	15	8.9	1.8
Shoe factories.....	13	10.3	2.2
Laundries.....	13	10.7	2.2
Cash girls.....	15	5.3	1.4
Cracker factories.....	2	10.0	1.5
Olgar factories.....	2	13.0	1.5
Book blinderes.....	2	13.0	1.5
Copyists.....	1	13.0	1.5
Dressmakers' apprentice.....	1	2.0	8.0
Box factories.....	2	9.0	1.5
Bag factories.....	2	13.0	1.5
Bakeries and confectionaries.....	11	13.0	1.5
Knitting works.....	2	10.3	1.7
Peddling.....	2	12.0	1.5
Errand girls.....	1	12.0	1.5
Fibre works.....	5	11.0	1.5
Book-keeper's assistant.....	1	12.0	1.5
Totals and general averages.....	101	9.8	1.1

TABLE 15.

Girls.—Showing Educational Condition—for the State.

	Can read.		Can write.		Can add.		Can subtract.		Can multiply.		Can divide.		Can work in fractions.	
	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.
Tin factories.....	14	1	14	1	14	1	13	1	13	2	3	13	10	15
Shoe factories.....	14	2	14	2	14	2	14	2	14	2	11	5	5	11
Laundries.....	13	1	13	1	13	1	13	1	13	4	3	10	13	13
Cash girls.....	15	1	15	1	15	1	15	1	15	1	15	3	1	1
Cracker factories.....	2	1	2	1	2	1	2	1	2	1	2	1	1	1
Olgar factories.....	2	1	2	1	2	1	2	1	2	1	2	1	1	1
Book blinderes.....	2	1	2	1	2	1	2	1	2	1	2	1	2	2
Copyists.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dressmaker's apprentice.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Box factories.....	2	1	2	1	2	1	2	1	2	1	2	1	2	2
Bag factories.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bakeries and confectioneries.....	9	2	9	2	9	2	9	2	9	2	9	2	11	1
Knitting works.....	3	1	3	1	3	1	3	1	3	1	3	1	2	2
Peddling.....	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Errand girls.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fibre works.....	5	1	5	1	5	1	5	1	5	1	5	1	5	1
Book-keeper's assistant.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	93	8	93	8	92	9	91	10	85	16	66	35	29	72

TABLE 16.

Boys—City of St. Paul.—Showing Number and Ages of Children.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Shoe factories.....					1	1		6	16	22	4	48
Peddling.....									2			4
Teamsters.....									2		1	3
Chair factories.....								1				1
Beer bottling.....									1			1
Upholstering factories.....										2		2
Blacksmith shops.....											1	1
Cooper shops.....									1			1
Horse collar factories.....									1		2	3
Machine shops.....												
Tinware factories.....						1	3	8	21	14	8	55
Office boys.....								1				1
Box factories.....							1		4	4	1	10
Paper hangers' apprentice.....						1						1
Cigar factories.....							2	3	3	10	2	20
Harness factories.....								2				2
Book binderies.....									2	2	3	7
Flour works.....									1	1	1	3
Cash boys.....					6	8	13	7	8	1		44
Planing mills.....							2	4	8	9	3	26
Printing offices.....								2	7	6	2	17
Press feeders.....										4	4	8
Furniture factories.....									3	3	1	7
Telegraph messengers.....								1	2	3	2	6
Clerks.....							1		2	1		4
Painters' apprentices.....										1	1	2
Trunk factories.....								1	1			2
Bakeries.....										2		2
Errand boys.....									2	2		4
Water boys.....							1		1			2
Plating works.....										1		1
Boot blacks and newsboys.....	1	3	1	8	12	11	12	13	5	3	3	72
Totals.....	1	3	1	8	19	22	35	49	94	94	42	368
GIRLS.												
Tin factories.....								3	9	2	1	15
Shoe factories.....								1	2	7		10
Laundries.....								1	5	6	1	13
Cash girls.....					1		3		1			5
Cracker factories.....											1	1
Cigar factories.....										1		1
Book binderies.....										3		3
Copyists.....							1	1				2
Dress makers' apprentices.....										1		1
Totals.....					1		3	6	19	20	3	52

TABLE 17.

Boys—City of St. Paul.—Showing number of Children, average Hours of Work per week, average weekly Wages, and whether Parents are Living or Dead.

	No. of boys.	Average hours of work per wk.	Average w'ly wages.	Father living.	Father dead.	Mother living.	Mother dead.	Parents both dead.
Shoe factories.....	48	60	\$2.75	41	7	47	1	.....
Peddling.....	4	50	3.00	3	1	4	.....	.....
Driving teams.....	3	60	2.50	3	.....	3	.....	.....
Chair factories.....	1	60	3.00	1	.....	1	.....	.....
Beer bottling.....	1	50	4.00	.....	1	.....	.....	.....
Upholstery factories.....	2	60	4.00	2	.....	2	.....	.....
Blacksmith shops.....	1	54	4.50	.....	1	.....	.....	.....
Cooper shops.....	3	57	5.33	3	.....	3	.....	.....
Horse collar factories.....	3	60	4.00	2	1	2	1	.....
Machine shops.....	2	56	4.25	1	1	2	.....	.....
Tin factories.....	55	60	2.57	50	5	50	5	.....
Office boys.....	3	50	2.83	3	.....	3	.....	.....
Box factories.....	10	60	3.16	9	1	10	.....	.....
Paper hangers' apprentices.....	1	56	.....	.....	.....	1	.....	.....
Cigar factories.....	20	51	2.57	18	2	20	.....	.....
Harness factories.....	2	50	3.00	2	.....	1	1	.....
Book binderies.....	7	50	3.67	7	.....	7	.....	.....
Plow works.....	3	57	4.20	3	.....	3	.....	.....
Cash boys.....	44	59	2.16	35	9	40	4	.....
Plaining mills.....	26	60	3.20	22	4	25	1	.....
Printing offices.....	17	59	3.37	13	4	15	2	.....
Press feeders.....	8	59	4.50	8	.....	8	.....	.....
Furniture factories.....	7	60	3.67	7	.....	7	.....	.....
Telegraph messengers.....	8	66	3.22	7	1	7	1	.....
Clerks.....	4	60	3.37	2	2	4	.....	.....
Painters' apprentices.....	2	58	4.05	2	.....	2	.....	.....
Trunk factories.....	2	60	3.12	2	.....	2	.....	.....
Bakeries.....	2	72	3.00	2	.....	2	.....	.....
Errand boys.....	4	51	4.12	4	.....	4	.....	.....
Water boys.....	2	60	2.25	2	.....	2	.....	.....
Plating works.....	1	48	3.00	1	.....	1	.....	.....
Boot blacks and newsboys.....	72	.....	.....	58	14	67	5	3
Totals and general averages.....	368	59	2.35	314	54	347	21	3
GIRLS.								
Tin factories.....	15	60	2.27	11	4	14	1	.....
Shoe factories.....	10	60	3.14	9	1	10	.....	.....
Laundries.....	13	60	3.19	10	3	13	.....	.....
Cash girls.....	5	63	1.80	4	1	4	1	.....
Cracker factories.....	2	59	3.75	2	1	2	.....	.....
Cigar factories.....	2	54	3.75	2	.....	2	.....	.....
Book binderies.....	2	50	4.00	2	.....	2	.....	.....
Copyists.....	1	48	.....	1	.....	1	.....	.....
Dress makers' apprentices.....	1	60	2.00	1	.....	1	.....	.....
Totals and general averages.....	52	60	2.84	41	11	50	2	.....

TABLE 18.

Boys—City of St. Paul.—Showing Occupation of Father.

	Laborer.	Painter.	Contractor.	Planing mill hand.	Tailor.	Barber.	Not specified.	Dead.	Expressman.	Carpenter.	Scroll sawyer.	Teamster.	Blacksmith.	Bricklayer.	Shoe maker.	Carpet weaver.	Engine wiper.	Policeman.	Stone mason.	Car repairer.	Shipping clerk.	Milk man.	Cooper.	Stationary engineer.	Locomotive engineer.	Tinsmith.	Cigar maker.	Insurance agent.	Pension agent.
Shoe factories.....	14				3		6	7		3		2			9	1	1	1	1										
Peddlers.....					1		3																						
Teamsters.....	1																												
Chair factory.....																													
Beer bottling.....										1																			
Upholstering fty.....	1		1																										
Blacksmith shop.....										1																			
Coopers shop.....																													
Horse collar fty.....										1																			
Machine shop.....	1									1																			
Tin factory.....	29	1		1			2	5		4		2								7						3	1		
Office boys.....	1																												
Box factories.....	5						2	1		1																			1
Paper h'ger appr.....																													
Cigar factory.....	6				2			2		3					1					1								1	
Harness factory.....																													
Book bindery.....	3						1			1														1					
Flour works.....	1																												
Cash boys.....	17	1	1				2	0		4		2	1	1	1														
Planing mills.....	8	1	1	1	1	2	2	4	1	1	1	1	1	1															
Printing office.....	7						1	3										1											
Press feeders.....	3						2																						
Furniture factory.....	1									1			1																
Tel. mesa. boys.....	1		1				1	1		1										1									
Clerks.....	1						2																						
Painters.....	2																												
Trunk factory.....	1											1																	
Bakery.....	1																												
Errand boys.....	3						1																						
Water boys.....	1																			1									
Plating works.....	1																												
Boot blks & n bs.....	20				4	1	4	15	1	1					2	2			1	1							2		
Totals.....	130	3	4	2	11	3	27	53	2	20	1	9	3	4	13	1	1	3	12	1	1	1	1	3	1	3	2	1	1
GIRLS.																													
Tin factories.....	9							1	4											1									
Shoe factories.....	5							1	1										1		1								
Laundries.....	6							2	3		1																		
Cash girls.....	2							1		1																			
Cracker fact's.....	1							1																					
Cigar factories.....	1							1	1																				
Book binderies.....	1							2																					
Copyists.....	1																												
Dress mk. appr.....	1																												
Totals.....	28						7	11		2					1		1		2										

TABLE 18—Continued.

	Paper hanger.	Merchant.	Salesman.	Gardener.	Plasterer.	Cabinet maker.	Saloon keeper.	Furnace tender.	Rental agency clerk.	Surveyor.	Farmer.	Bridge builder.	Office clerk.	Stone cutter.	Cleaning furs.	Tar roofer.	Printer.	Machinist.	Railway Co.'s agent.	Baker.	Elevator foreman.	Peddler.	Baggage man.	Upholsterers.	Glazier.	Iron moulder.	Totals.
Shoe factories.....																											48
Peddlers.....																											4
Teamsters.....																											2
Chair factory.....																											1
Beer bottling.....																											1
Upholstering fty.....																											2
Blacksmith shop.....																											1
Cooper shop.....																											3
Horse collar fty.....																											3
Machine shop.....																											2
Tin factory.....																											55
Office boys.....																											3
Box factories.....																											10
Paper hangers' appr.....	1																										1
Cigar factory.....		1	1	2																							20
Harness factory.....					1	1																					2
Book bindery.....							1																				7
Plow works.....								1																			3
Cash boys.....	1		1						1	1	1	1															44
Planting milks.....																											28
Printing office.....		1											2	1	1												17
Press feeders.....																1											8
Furniture factory.....						5																					8
Tel. messenger boys.....																	1	1	1								4
Clerks.....																											4
Painters.....																											2
Trunk factory.....																											2
Bakery.....																				1							2
Errand boys.....																											4
Water boys.....																											2
Planting works.....					1																						1
Boot blacks and n boys.....	1	1			2	2											2				2	3	1	2	1	1	72
Totals.....	2	3	3	2	4	8	1	1	1	1	1	1	2	1	1	1	3	1	1	1	2	3	1	2	1	1	368
GIRLS,																											
Tin factories.....																											15
Shoe factories.....														1													10
Laundries.....						1																					13
Cash girls.....																											5
Cracker factory.....																											2
Cigar factories.....																											3
Book binderies.....																											2
Copyists.....																											1
Dressmakers' appr.....																											1
Totals.....						1								1													52

TABLE 19.
Boys—City of St. Paul.—Showing Age at Commencing Work.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Shoe factories.....				1	2	1	7	21	18	2		48
Peddling.....												4
Driving team.....							1	2				3
Chair factory.....								1				1
Beer bottling.....								1				1
Upholstery factory.....								2				2
Blacksmith shop.....										1		1
Coopershop.....									2			3
Horse collar factory.....							1		1			2
Machine shop.....									1	1		2
Tin factory.....					5	3	15	18	11	3		55
Office boys.....						1	1	2				3
Box factory.....						1	1	3	5			10
Paper hanger's apprentice.....						1						1
Cigar factory.....						3	5	7	4	1		20
Harness factory.....					1		1					2
Book bindery.....							1	5		1		7
Plow works.....								1	2			3
Cash boys.....					7	15	11	8	3			44
Planing mills.....					1	2	6	9	9	1		26
Printing offices.....							1	1		1		3
Press feeders.....						1		3	3	1		8
Furniture factories.....							2	2	3			7
Telegraph messenger boys.....					1			3	3	1		8
Clerks.....							1	1	1	1		4
Painters.....									1	1		2
Trunk factories.....					1		1					2
Bakery.....									2			2
Errand boys.....								4				4
Water boys.....					1			1				2
Plating works.....									1			1
Boot blacks and newsboys.....	5	7	16	11	13	12	4	1	2	1		73
Totals.....	5	7	16	12	32	30	61	101	77	18		368
GIRLS.												
Tin factory.....							4	7	4			15
Shoe factory.....							2	2	5	1		10
Laundry.....							1	6	6			13
Cash girls.....					1		3	1				5
Cracker factory.....									1	1		2
Cigar factory.....								1	2			3
Book binderies.....						1	1					2
Copyist.....									1			1
Dressmakers' apprentice.....									1			1
Totals.....					1	1	11	17	20	2		52

TABLE 20.

Boys—City of St. Paul.—Showing Months of Employment and School Attendance During Year.

	No. of children.	Average months of employment during year.	Average months of school attendance during year.
Shoe factories.....	48	9.2	1.4
Peddling.....	4	12.0	2.0
Driving team.....	3	5.7	4.7
Chair factories.....	1	1.0	.....
Beer bottling.....	1	12.0	.....
Upholstery factories.....	2	12.0	.....
Blacksmith shop.....	1	8.0	4.0
Cooper shops.....	3	7.7	.....
Horse collar factories.....	3	12.0	.....
Machine shops.....	2	9.0	3.0
Tin factories.....	55	9.0	1.7
Office boys.....	3	10.0	2.0
Box factories.....	10	8.5	1.7
Paper hangers' apprentice.....	1	1.0	9.0
Cigar factories.....	20	9.4	1.6
Harness factories.....	2	12.0	.....
Book binderies.....	7	11.1	4.0
Plow works.....	3	9.0	2.7
Cash boys.....	44	6.7	4.9
Plaining mills.....	26	9.0	2.3
Printing offices.....	17	8.3	2.4
Press feeders.....	8	12.0	.....
Furniture factories.....	7	7.0	5.0
Telegraph messengers.....	8	9.0	1.5
Clerks.....	4	3.0	5.7
Painters' apprentices.....	2	8.0	4.0
Trunk factories.....	2	12.0	3.0*
Bakeries.....	2	6.0	.....
Errand boys.....	4	10.5	2.7
Water boys.....	2	9.5	2.0
Plating works.....	1	10.0	2.0*
Boot blacks and news boys.....	72	.....	4.8
Totals and general averages.....	368	6.9	2.8
GIRLS.			
Tin factories.....	15	8.9	1.8
Shoe factories.....	10	9.7	.3
Laundries.....	13	10.7	.....
Cash girls.....	5	5.0	5.4
Cracker factories.....	2	10.0	1.5
Cigar factories.....	3	12.0	.....
Book binderies.....	2	12.0	.....
Copyist.....	1	12.0	.....
Dress makers' apprentice.....	1	2.0	8.0
Totals and general averages.....	52	9.4	1.8

*The apparent excess of time is due to attendance at night schools.

TABLE 21.

Boys—City of St. Paul.—Showing Educational Condition.

	Can read.		Can write.		Can add.		Can subtract.		Can multiply.		Can divide.		Can work in fractions.	
	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.
Shoe factories.....	39	9	39	9	39	9	38	10	38	10	19	29	5	43
Peddling.....	4	1	3	1	3	1	3	1	3	1	1	1	1	4
Driving team.....	3	1	3	1	3	1	3	1	3	1	1	1	1	3
Chair factories.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Beer bottling.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Upholstery factories.....	2	1	2	1	2	1	2	1	2	1	1	1	1	2
Blacksmith shops.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cooper shops.....	2	1	2	1	2	1	2	1	2	1	1	2	1	3
Horsecollar factories.....	3	1	3	1	3	1	3	1	3	1	3	1	1	3
Machine shops.....	2	1	2	1	2	1	2	1	2	1	2	1	2	2
Tin factories.....	54	1	54	1	42	13	38	17	36	19	19	36	9	46
Office boys.....	3	1	3	1	3	1	3	1	3	1	1	1	1	2
Box factories.....	7	3	7	3	7	3	7	3	6	4	8	8	10	10
Paper hanger's apprentice.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cigar factories.....	19	1	19	1	18	2	17	3	13	7	9	11	3	17
Harness factories.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Book binderies.....	7	1	7	1	7	1	7	1	7	1	6	1	2	5
Plow works.....	3	1	3	1	3	1	3	1	3	1	3	1	1	2
Cash boys.....	44	2	44	2	44	2	44	2	44	2	27	17	11	33
Planing mills.....	24	2	24	2	24	2	24	2	21	5	14	12	6	20
Printing offices.....	17	1	17	1	17	1	17	1	16	1	12	5	6	11
Press feeders.....	8	1	8	1	8	1	8	1	8	1	7	1	2	6
Furniture factories.....	7	1	7	1	7	1	7	1	7	1	7	1	3	4
Telegraph messengers.....	7	1	7	1	7	1	7	1	7	1	7	1	1	7
Clerks.....	4	1	4	1	4	1	4	1	4	1	4	1	2	2
Painters' apprentices.....	2	1	2	1	2	1	2	1	2	1	2	1	2	2
Trunk factories.....	2	1	2	1	2	1	2	1	2	1	1	1	2	2
Bakeries.....	1	1	1	1	1	1	1	1	1	1	1	1	2	2
Errand boys.....	4	1	4	1	4	1	4	1	4	1	3	1	2	2
Water boys.....	2	1	2	1	2	1	2	1	2	1	1	1	2	2
Plating works.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Boot blacks and news boys.....	62	10	62	10	55	17	55	17	54	18	29	43	16	56
Totals.....	338	30	337	31	317	51	309	59	298	70	184	184	73	295
GIRLS.														
Tin factories.....	14	1	14	1	14	1	14	1	12	3	3	12	15	15
Shoe factories.....	8	2	8	2	8	2	8	2	8	2	5	5	2	8
Laundries.....	13	1	13	1	13	1	13	1	9	4	3	10	1	12
Cash girls.....	5	1	5	1	5	1	5	1	5	1	5	2	3	3
Cracker factories.....	2	1	2	1	2	1	2	1	2	1	2	1	1	1
Cigar factories.....	3	1	3	1	3	1	3	1	3	1	3	1	2	2
Book binderies.....	2	1	2	1	2	1	2	1	2	1	1	1	1	2
Copyist.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dress maker's apprentice.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	49	3	49	3	49	3	49	3	43	9	24	28	8	44

TABLE 22.
Boys—City of Minneapolis.—Showing Number and Ages of Children.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Paint works.....							1					1
Excelsior water manufacturing.....										1		1
Water boy.....											1	1
Driving derrick horse.....							1					1
Book binderies.....							1	1		1		4
Bag factory.....										2	5	7
Stripping tobacco.....										1	1	2
Manufacturing mattresses (wool).....										1		1
Manufacturing wooden boxes.....							1	1			5	7
Farm fence mnfg.....							2	1	1	2		6
Stove works.....								1	1	2		4
Peddling.....			1	1				1	1			4
Wire goods mnfg.....										1	4	5
Burial casket works.....											2	2
Sash, door and blind factory.....								2	1	2	3	8
Job printing offices.....								1	1	2	6	10
Boot and shoe mnfg. co.....								2	6	3	4	14
Woolen mill.....									1	4	8	13
Confectionery and bakeries.....							1		1	5	7	14
Furniture factories.....								3	14	6	7	30
Errand boys.....						2	1	6	4	2	5	20
Telegraph messengers.....						1	1	6	13	16	15	52
Boot blacks and news boys.....	2	4	6	7	7	9	10	15	15	8	12	95
Cash boys.....				1	4	15	19	17	19	4	5	84
Totals.....	2	4	7	9	11	27	36	57	79	62	94	388
GIRLS.												
Cash girls.....							2	2	2	3	1	10
Paper box factory.....									3	4		8
Bag factory.....											2	2
Confectionery and bakeries.....										5	6	11
Knitting Works.....									1	2		3
Boot and shoe mnfg. co.....									2	1	3	6
Peddling.....			1				1					2
Errand girls.....											1	1
Totals.....			1				3	2	8	15	14	43

TABLE 23.

Boys—City of Minneapolis.—Showing Number of Children, Average Hours of Work per Week, Average Weekly Wages, and whether Parents are Living or Dead.

	No. of boys.	Average hours work per w.k.	Average w'kly wages.	Father living.	Father dead.	Mother living.	Mother dead.	Parents both dead.
Paint works.....	1	60	\$3.00	1	.....	1	.....	.....
Excelsior water manufacturing.....	1	60	3.00	.....	1	1	.....	.....
Water boy.....	1	60	5.00	1	.....	1	.....	.....
Driving derrick horse.....	1	66	4.50	1	.....	1	.....	.....
Book binderies.....	4	60	3.38	4	.....	4	.....	.....
Bag factories.....	7	60	4.42	6	.....	6	1	.....
Stripping tobacco.....	2	60	2.75	1	1	2	.....	.....
Wool mattress manufacturing.....	4	60	4.25	3	1	4	.....	.....
Wooden box factory.....	7	60	3.83	7	.....	7	.....	.....
Farm fence manufacturing.....	6	60	3.84	5	1	6	.....	.....
Stove works.....	3	60	4.17	2	1	3	.....	.....
Peddling.....	4	.....	.....	4	.....	4	.....	.....
Wire goods manufacturing.....	5	60	3.82	3	2	4	1	.....
Burial casket works.....	2	60	4.50	2	.....	2	.....	.....
Sash, doors and blinds.....	8	60	3.37	7	1	7	1	.....
Job printing offices.....	10	59	4.21	8	2	8	2	2
Boot and shoe manufacturing Co.....	14	60	3.57	10	4	14	.....	.....
Woolen mill.....	13	60	5.05	9	4	12	1	.....
Confectionaries and bakery.....	14	60	3.75	12	2	12	2	1
Furniture factories.....	30	60	3.43	28	2	29	1	.....
Errand boys.....	20	59	2.54	17	3	17	3	.....
Telegraph messengers.....	52	67	3.54	37	15	47	5	3
Boot blacks and newsboys.....	95	.....	.....	59	36	71	24	8
Cash boys.....	84	55	2.21	71	13	82	2	1
Totals and general averages.....	388	59.7	\$3.23	298	90	345	43	15
GIRLS.								
Cash girls.....	10	54	2.55	8	2	9	1	.....
Paper box factory.....	8	60	3.19	6	2	7	1	1
Bag factory.....	2	60	4.00	2	.....	1	1	.....
Confectionary and bakery.....	11	60	3.60	10	1	11	.....	.....
Knitting works.....	3	56	2.67	1	2	3	.....	.....
Boot and shoe manufacturing.....	6	60	3.17	6	.....	6	.....	.....
Peddling.....	2	.....	.....	.....	2	2	.....	.....
Errand girls.....	1	60	4.00	1	.....	1	.....	.....
Totals and general averages.....	43	56	\$3.01	34	9	40	3	1

TABLE 24—Continued.

	Stationary Engineer.	Salesman.	Blacksmith.	Shoemaker.	Plumber.	Farmer.	Foreman Woolen Mill.	Rutcher.	Merchant.	Lumberman.	Painter.	Stone Cutter.	Plasterer.	Cooper.	Car Repairer.	Cabinet Maker.	Fireman Stat'y Engine.	Canvasser Books.	Policeman.	Locomotive Engineer.	Miller.
Paint Works.....																					
Excelsior Water Manufacturing.....																					
Water Boy.....																					
Teamster.....																					
Book Binderies.....																					
Bag Factories.....																					
Stripping Tobacco.....																					
Wool Mattress Manufacturing.....																					
Box Factory.....																			1		
Farm Fence Manufacturing.....																					
Stove Works.....																					
Peddling.....																					
Wire Goods Manufacturing.....																					
Burial Casket Works.....																					
Sash, Door and Blinds.....																					
Job Printing Offices.....		1																			
Boot and Shoe Manufacturing Co.....			1	2																	
Woolen Mill.....					1	1	1														
Confectionaries and Bakery.....								2		1	1										
Furniture Factories.....		1	1		1				1	1	1				1	1					
Errand Boys.....																					
Telegraph Messengers.....		1									1										
Bootblacks and newsboys.....		1	1	1					1	3	1										
Cash Boys.....		1	4	6	1				1	2	3	1	2								
Totals.....	1	7	9	3	2	1	1	3	5	5	8	3	3	2	3	2	2	2	2	3	3
GIRLS.																					
Cash Girls.....	1									2											
Paper Box Factory.....	1																				
Bag Factory.....																					
Confectionaries and Bakery.....						1			1												
Knitting Works.....												1									
Boot and Shoe Manufacturing Co.....												1									
Peddling.....													1							1	
Errand Girls.....																					
Totals.....	1					1			1	2		1	1							1	

TABLE 24—Continued.

	Boiler Maker.	Bricklayer.	Oil Inspector.	Telegraph Operator.	Photographer.	Tinsmith.	Barber.	Bartender.	Real Estate Agent.	Livery Stable.	Kalsomning.	Musician.	Tent Maker.	Head Sawyer.	Clothing Cutter.	Pattern Maker.	Cigarmaker.	Miner.	Millwright.	Total.
Paint Works.....																				1
Excelsior Water Manufacturing.....																				1
Water Boy.....																				1
Teamster.....																				1
Book Binderies.....																				4
Bag Factories.....																				7
Stripping Tobacco.....																				2
Wool Mattress Manufacturing.....																				7
Box Factory.....																				4
Farm Fence Manufacturing.....																				6
Stove Works.....																				3
Peddling.....																				4
Wire Goods Manufacturing.....																				5
Burial Casket Works.....																				2
Sash, Door and Blinds.....																				8
Job Printing Offices.....																				10
Boot and Shoe Manufacturing Co.....																				14
Woolen Mill.....																				13
Confectionaries and Bakery.....																				14
Furniture Factories.....																				30
Errand Boys.....																				20
Telegraph Messengers.....	3	1	1	1	1	2		1	2											52
Bootblacks and newsboys.....							5			1	1									95
Cash Boys.....										1	1									84
Totals.....	3	1	1	1	1	2	6	3	2	1	1		1	1	1	1	1	1	2	388
GIRLS.																				
Cash Girls.....																				10
Paper Box Factory.....	1							1												8
Bag Factory.....																				2
Confectionaries and Bakery.....												1								11
Knitting Works.....																				3
Boot and Shoe Manufacturing Co.....																				6
Peddling.....																				2
Errand Girls.....																				1
Totals.....	1							1				1								43

TABLE 25.

Boys—City of Minneapolis.—Showing Age at Commencing Work.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Paint works						1						1
Excelsior water manufacturing							1					1
Water boy									1			1
Driving derrick horse						1	1					1
Book binderies						1	1			2		4
Bag factory								1	2	3	1	7
Stripping tobacco									2			2
Wool mattresses manufacturing							1	1		1		4
Wooden box factory							1	2	3			7
Farm fence manufacturing						2	2	1		1		6
Stove works							1		2			3
Peddling		2					2					4
Wire goods manufacturing								2		3		5
Burial casket company							1	1		1		2
Sash, door and blinds						3	1	1	2	1		8
Job printing offices							1	3	5	1		10
Boot and shoe manufacturing Co.					1	3	2	6	2			14
Woolen mill						1	2	5	4	1		13
Confectionaries and bakeries							1	5	5	3		14
Furniture factories							4	8	15	3		30
Errand boys					3		6	7	3	1		20
Telegraph messengers			2	4		3	9	15	10	8	1	52
Boot blacks and newsboys	5	6	20	13	17	15	7	8	3	1		95
Cash boys				4	18	16	18	22	3	3		84
Totals	5	8	22	21	39	45	61	87	64	34	2	388
GIRLS.												
Cash girls						1	3	2	3	1		10
Paper box factory							3	3	1	1		8
Bag factory									1	1		2
Confectionaries and bakeries								3	5	1	2	11
Knitting works									3			3
Boot and shoe manufacturing Co.								3	2	1		6
Peddling			1			1						2
Errand girls									1			1
Totals			1			2	6	11	16	5	2	43

TABLE 26.

Boys—City of Minneapolis.—Showing Months of Employment and School Attendance During Year.

	No. of children.	Average months of employment during year.	Average months of school attendance during year.
Paint works.....	1	9	3 *
Excelsior manufacturing.....	1	12	.....
Water boys.....	1	9	3 *
Driving derrick house.....	1	9	3 *
Book binderies.....	4	12	2 *
Bag factories.....	7	10.3	.....
Stripping tobacco.....	2	12	.....
Wool mattress manufacturing.....	4	9	1.5
Wooden box factory.....	7	10.6	.....
Farm fence manufacturing.....	6	5.5	3
Stove works.....	3	12	.....
Peddling.....	4	9.5	2.2
Wire goods manufacturing.....	5	12	.6*
Burlal casket company.....	2	11	1 *
Sash, door and blinds.....	8	10.1	2.1*
Job printing office.....	10	11.6	.4*
Boot and shoe manufacturing company.....	14	12	.....
Woolen mills.....	13	10.8	1.8*
Confectioneries and bakeries.....	14	10.4	.....
Furniture factories.....	30	8.5	1.9
Errand boys.....	20	7.3	1.9
Telegraph messengers.....	52	7.9	2.8
Boot blacks and news.....	95	.....	1.4
Cash boys.....	84	6.3	2.9
Totals and general averages.....	388	6.39	1.84
GIRLS.			
Cash girls.....	10	5.9	4.3
Paper box factory.....	8	9.9	.....
Bag factories.....	2	12	.....
Confectioneries and bakeries.....	11	12	.....
Knitting works.....	3	10.3	.7
Boot and shoe manufacturing.....	6	12	.....
Peddling.....	2	.....	.....
Errand girls.....	1	12	.....
Totals and general averages.....	43	9.51	1.04

*The apparent excess of time is due to attendance at night school.

TABLE 27.

Boys—City of Minneapolis—Showing Educational Condition.

	Can read.		Can write.		Can add.		Can subtract.		Can multiply.		Can divide.		Can work in fractions.	
	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.
Paint works.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Excelsior manufacturing.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Water boy.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Driving derrick horse.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Book binderies.....	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Bag factories.....	3	1	6	1	6	1	6	1	6	1	6	1	6	1
Stripping tobacco.....	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Wool mattress mnfg.....	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wooden box factory.....	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Farm fence mnfg.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stove works.....	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Peddling.....	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Wire goods mnfg.....	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Burial casket Co.....	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Sash, door and blind factory.....	1	1	6	6	6	6	6	6	6	6	6	6	6	6
Job printing offices.....	7	9	9	1	8	2	2	2	2	2	2	2	2	2
Boot and shoe mnfg. Co.....	12	2	11	3	11	3	10	4	10	4	10	4	10	4
Woolen mill.....	12	1	11	2	9	4	9	4	9	4	9	4	9	4
Confectionery and bakery.....	10	4	10	4	9	5	9	5	9	5	9	5	9	5
Furniture factories.....	29	1	28	2	24	6	24	6	24	6	24	6	24	6
Errand boys.....	19	1	18	2	16	4	14	6	13	7	13	7	13	7
Telegraph messengers.....	52	52	47	5	47	5	47	5	47	5	47	5	47	5
Boot blacks and newsboys.....	77	18	64	31	36	59	33	62	32	63	31	64	12	83
Cash boys.....	82	2	81	3	75	9	74	10	72	12	72	12	29	55
Totals.....	354	34	332	56	279	100	271	117	267	121	266	122	103	285
GIRLS.														
Cash girls.....	10	10	10	10	10	10	10	10	10	10	10	10	6	4
Paper box factory.....	8	8	8	8	8	8	8	8	8	8	8	8	3	5
Bag factory.....	1	1	1	1	2	2	2	2	2	2	2	2	2	2
Confections and bakeries.....	9	2	9	2	9	2	9	3	9	3	9	3	11	1
Knitting works.....	3	3	3	3	3	3	3	3	3	3	3	3	2	1
Boot and shoe mnfg.....	6	6	6	6	6	6	6	6	6	6	6	6	3	3
Peddling.....	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Errand girls.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	38	5	38	5	37	6	36	7	36	7	36	7	15	28

TABLE 28.

Boys—City of Winona.—Showing Number and Ages of Children.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Battan Works.....	1	1	1	1	1	1	1	1	1	1	3	5
Dry goods clerk.....	1	1	1	1	1	1	1	1	1	1	1	1
Cooper shop.....	1	1	1	1	1	1	1	1	1	1	1	1
Beil boys.....	1	1	1	1	1	1	1	1	1	1	1	1
Painters' apprentice.....	1	1	1	1	1	1	1	1	1	1	1	1
Planing mill.....	1	1	1	1	1	1	1	1	1	1	1	1
Saw mills.....	1	1	1	1	1	1	1	1	1	1	1	1
Printing office.....	1	1	1	1	1	1	1	1	1	1	1	1
Errand boys.....	1	1	1	1	1	1	1	1	1	1	1	1
Newsboys and bootblacks.....	1	1	1	1	1	1	1	1	1	1	1	1
Totals....	1	4	16	27	22	70						

TABLE 29.

Boys—City of Winona.—Showing Number of Children, Average Hours of Work per Week, Average Weekly Wages, and Whether Parents are Living or Dead.

	Number of boys.	Average hours of work per week.	Average weekly wages.	Father living.	Father dead.	Mother living.	Mother dead.	Parents both dead
Rattan works.....	5	60	\$1.95	5	...	5	...	...
Dry goods clerk.....	56	60	1.50	...	...	...	...	...
Cooper shop.....	60	60	3.79	...	1	...	...	...
Bell boys.....	63	60	3.75	...	...	...	...	...
Painter's apprentice.....	60	60	4.17	...	...	...	...	...
Planing mills.....	22	60	2.94	24	...	25	3	...
Saw mills.....	16	60	4.16	13	3	16	...	...
Printing office.....	60	60	3.00	12	1	...	...	...
Errand boy.....	68	60	2.50	...	...	...	...	...
Newsboys and bootblacks.....	...	...	...	...	...	...	...	...
Totals and general averages.....	70	60	\$3.28	61	9	67	3	...

TABLE 30.

Boys.—City of Winona.—Showing Occupation of Father.

	Laborer.	Watchman.	Locomotive engineer.	Wagon maker.	Sup't of gas works.	Lumber y'd foreman.	Saloon keeper.	Blacksmith.	Carpenter.	Hotel keeper.	Newspaper foreman.	Cooper.	Machinist.	Shoemaker.	Teamster.	Stone mason.	Not specified.	Dead.	Total.
Rattan works.....	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dry goods clerks.....	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cooper shop.....	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bell boys.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Painter's apprentice.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Planing mills.....	14	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Saw mills.....	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Printing office.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Errand boy.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Newsboys and bootblacks.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals.....	33	1	1	1	1	1	2	2	3	1	1	2	1	1	4	2	6	7	70

TABLE 31.

Boys—City of Winona.—Showing Age at Commencing Work.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Totals.
Rattan works.....								2	2	1		5
Dry goods clerks.....								4	3			7
Cooper shops.....							1	1				2
Bell boys.....								1		1		2
Painter's apprentice.....								1	2			3
Planing mill.....								8	16	4		28
Saw mills.....							2	7		1		10
Printing office.....									2	1		3
Errand boy.....								1				1
News boys and boot-blacks.....							1	1				2
Totals.....							4	25	34	7		70

TABLE 32.

Boys—City of Winona.—Showing Months of Employment and School Attendance During Year.

	No. of children.	Average months of employment during year.	Average months of school attendance during year.
Rattan works.....	5	12.0	1.60*
Dry goods clerks.....	3	7.0	4.00
Cooper shops.....	3	9.5	.75
Bell boys.....	2	12.0	
Painter's apprentice.....	3	9.8	1.00
Planing mills.....	28	11.0	.43
Saw mills.....	16	5.6	2.56
Printing office.....	3	8.5	4.00*
Errand boy.....	2	9.0	2.00
Boot blacks and newsboys.....	2		8.00
Totals and general averages.....	70	9.1	1.5

* The apparent excess of time is due to attendance at night schools.

TABLE 33.

Boys—City of Winona.—Showing Educational Condition.

	Can read.		Can write.		Can add.		Can subtract.		Can multiply.		Can divide.		Can work in fractions.	
	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.
Rattan works.....	12	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dry goods clerks.....	12	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cooper's shops.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Bell boy.....	12	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Painter's apprentice.....	12	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Planing mill.....	21	.....	20	.....	13	15	13	15	13	15	5	.....	.....	.....
Saw mills.....	11	5	11	5	10	6	10	6	10	6	16	.....	.....	.....
Printing office.....	12	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Errand boy.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bootblacks and news boys.....	12	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	57	13	56	14	48	22	45	25	41	20	14	56	5	65

TABLE 34.

Boys—City of Mankato.—Showing Number and Ages of Children.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Fibre works.....	1	1	3	3	8
Tub factory.....	1	3	4	3	12
Flour mill.....	1	1	.....	1
Totals.....	3	4	8	6	21
GIRLS—
Fibre Works.....	1	2	2	5
Flour mill.....	1	.....	1
Totals.....	1	2	3	6

TABLE 35.

Boys—City of Mankato.—Showing Number of Children, Average Hours of Work per Week, Average Weekly Wages, and Whether Parents are Living or Dead.

	Number of boys.	Average hours of work per week.	Average weekly wages.	Father living.	Father dead.	Mother living.	Mother dead.	Parents both dead.
Fibre works.....	8	60	\$3.07	4	4	7	1	....
Tub factory.....	13	60	3.02	11	1	12	1	....
Flour mill.....	1	72	4.50	1	....	1	....	....
Totals and general averages.....	21	61	\$3.11	16	5	20	1	....
GIRLS—								
Fibre works.....	5	60	2.88	5	....	5	....	....
Flour mill.....	1	60	4.60	1	....	1	....	....
Totals and general averages.....	6	60	\$3.17	6	....	6	....	....

TABLE 36.

Boys—City of Mankato.—Showing Occupation of Father.

	Laborer.	Pressman.	Manager of fibre works.	Shoemaker.	Not specified.	Dead.	Total.
Fibre works.....	1	1	1	....	1	4	8
Tub factory.....	10	....	....	2	....	....	12
Flour mill.....	1	....	....	....	....	....	1
Totals.....	12	1	1	2	1	4	21
GIRLS—							
Fibre works.....	4	....	....	1	....	....	5
Flour mill.....	....	....	....	1	....	....	1
Totals.....	4	....	....	2	....	....	6

TABLE 37.

Boys—City of Mankato.—Showing Age at Commencing Work.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Totals.
Fibre works.....	1	2	3	1	3	3	1	8
Tub factory.....	12
Flour mill.....	1	....	....	1
Totals.....	1	2	3	4	7	3	1	21
GIRLS.												
Fibre works.....	1	....	2	1	1	5
Flour mill.....	1	....	1
Totals.....	1	....	2	2	1	6

TABLE 38.

Boys—City of Mankato.—Showing Months of Employment and School Attendance During Year.

	No. of children.	Average months of employment during year.	Average months of school attendance during year.
Fibre works.....	8	12.	.....
Tub factory.....	12	9.8	1.2
Flour mill.....	1	12.	.....
Totals and general averages.....	21	10.7	7
GIRLS.			
Fibre works.....	5	12.	.....
Flour mill.....	1	12.	.....
Totals and general averages.....	6	12.	.....

TABLE 39.

Boys—City of Mankato.—Showing Educational Condition.

	Can read.		Can write.		Can add.		Can subtract.		Can multiply.		Can divide.		Can work in fractions.	
	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.
Fibre works.....	8	.....	8	.....	8	.....	8	.....	8	.....	8	.....	8	.....
Tub factory.....	12	.....	12	.....	11	1	11	1	11	1	10	2	9	3
Flour mill.....	1	.....	1	.....	1	.....	1	.....	1	.....	1	.....	1	.....
Totals.....	21		21		20	1	20	1	20	1	19	2	18	3
GIRLS.														
Fibre works.....	5	.....	5	.....	5	.....	5	.....	5	.....	5	.....	5	.....
Flour mill.....	1	.....	1	.....	1	.....	1	.....	1	.....	1	.....	1	.....
Totals.....	6		6		6		6		6		6		6	

TABLE 40.

Boys—City of Red Wing.—Showing Number and Ages of Children.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Totals.
Pottery works.....							3	2	2	5	6	18
Plumber apprentice.....							1	2	2	2		6
Furniture factory.....												
Totals.....							4	5	5	7	6	27

TABLE 41.

Boys—City of Red Wing.—Showing Number of Children Average Hours of Work Per Week, Average Weekly Wages, and Whether Parents are Living or Dead.

	Number of boys.	Average hours of work per week.	Average weekly wages.	Father living.	Father dead.	Mother living.	Mother dead.	Parents both dead.
Pottery works.....	18	47	\$3.50	15	3	17	1	1
Plumber apprentice.....	1	80	1.50		1	1		
Furniture factory.....	8	60	54	5	3	6	2	
Totals and general averages.....	27	51	\$3.14	20	7	24	3	1

TABLE 42.

Boys—City of Red Wing.—Showing Occupation of Father.

	Laborer.	Lime kiln man.	Locomotive fireman.	Potter.	Shoemaker.	Engineer.	Engine wiper.	Expressman.	Wood turner.	Cabinet maker.	Not specified.	Total.
Pottery works.....	7	1	1	2	1	1	1	1			3	18
Plumber apprentice.....	1											1
Furniture factories.....	2								1	2	3	8
Totals.....	10	1	1	2	1	1	1	1	1	2	6	27

TABLE 43.

Boys—City of Red Wing.—Showing Age at Commencing Work.

	6 years.	7 years.	8 years.	9 years.	10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	Total.
Pottery works.....	1	3	6	2	4	2	.....	18
Plumber's apprentice.....	1	2	1	.....	.....	.....	1
Furniture factories.....	2	.....	.....	.....	2
Totals	1	4	8	6	6	2	.....	27

TABLE 44.

Boys—City of Red Wing.—Showing Months of Employment and School Attendance During Year.

	No of children.	Average months of employment during year.	Average months of school attendance during year.
Pottery works.....	18	8.6	2.6
Plumber's apprentice.....	1	2.0	2.0
Furniture factories.....	2	8.1	2.0
Totals and general averages.....	27	8.19	2.74

TABLE 45.

Boys—City of Red Wing.—Showing Educational Condition.

	Can read.		Can write.		Can add.		Can subtract.		Can multiply.		Can divide.		Can work in Fractions.	
	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.	Yes.	No.
Pottery works.....	18	.....	18	.....	18	.....	17	1	17	1	15	3	8	10
Plumber apprentice.....	1	.....	1	.....	1	.....	1	.....	1	.....	1	.....	1	.....
Furniture factories.....	2	.....	2	.....	2	.....	2	.....	2	.....	4	.....	.....	8
Totals.....	27	.....	27	.....	27	.....	26	1	26	1	20	7	9	18

A few interesting facts are revealed by an inspection of these tables. Less than 13 per cent. of the boys are under 12 years of age and these are predominantly "street Arabs." By Table No. 5 it appears that the average wage is, substantially, 50 cents per day. There are 19 per cent. of the boys fatherless and 8.1 per cent. motherless, 2.2 per cent. are orphans.

By Table No. 6 it will be seen that the fathers follow a great variety of occupations, many of them callings which would seem to relieve them from the necessity of sending their children out to work at so early an age. The number of laborer's children is disproportionately large being 33.5. per cent. of the whole. It appears from Table No. 7 that 11 per cent. begin work before the age of 10 years and 30 per cent. before the age of 12 years. By Table No. 8 it appears that the average number of months employment is 8.6, the average months of school attendance being 2.6, an amount evidently insufficient to secure proper education for any child. It must be remembered that this includes attendance upon night schools. It seems nothing less than cruelty to send a child to night school after having worked in a factory all day. It seems probable that all knowledge so acquired must be bought at the expense of physical deterioration in the subject. The English half-time school is a vast improvement upon the night school in this respect.

By Table No. 9 it appears that 92.3 per cent. of the boys can read, 88.4 per cent. can write, 79.3 per cent. can add, 77.1 per cent. can subtract, 74.7 per cent. can multiply, 57.5 per cent. can divide, and 24.0 per cent. can work in fractions.

CHAPTER III.

MANUAL AND TECHNICAL TRAINING.

Manual and technical training—industrial training—What is it, what is its purpose, what are its results? Every innovation upon old ideas and old methods must answer these questions. A variety of views have been held with respect to its nature and utility. The popular idea is that it is an effort to teach boys a trade in school. This is erroneous. The best opinions upon the subject at present regard it as a necessary, but heretofore neglected part of an education; a thing needful to the symmetrical growth of the physical and mental powers which naturally belong to a human being. It is reinforcing the power of thought with the power of execution; cultivating the faculties, not only to know how a thing should be done, but to do it. It is supplementing the action of the trained mind with the action of the trained hand and eye. Entirely aside from its utilitarian value, it is an essential method of harmonious development for the individual.

It is difficult to fix a precise definition for the term "Manual Training." The New Jersey Council of Education defines it as "*training in thought-expression by other means than gesture and verbal language, in such a carefully graded course of study as shall also provide adequate training for the judgment and the executive faculty.*" This training will necessarily include drawing and constructive work, but experience alone can determine by what special means this instruction may best be given."

Says the Commissioner of Education: Using the expression "Manual Training" in the sense here given, the argument for its introduction into the public school course is placed on exactly the same basis as the argument for the essential branches of education.

As in the case of all new propositions of a social and educational nature, there are propagandists and conservatives.

Since it is not the province of this bureau to make a case, we present as fully as space will permit the best available arguments for and against it, as stated in the report of the Commissioner of Education for 1887-88:

The Industrial Association of New York City says:

"The argument for manual training rests upon psychology, and it is only modern psychology that has discovered and emphasized the place that man's powers of expression occupy in the acquisition of knowledge and the development of mental capacity. Manual training is the form of instruction with which it is proposed to appeal to these powers of expression. It consists of two reciprocal parts, drawing and constructive work. The object of the training is to add to the pupil's power of expression by verbal description, the powers of expression by delineation and by construction. Either of the latter powers is simpler and easier than the use of abstract language. It is more natural to be able to draw a sphere, or to make one out of clay or wood, than to comprehend the geometrical definition of a sphere. Yet the curriculum of the ordinary common school has no place for the former, while it devotes much time to the latter mode of expression. It will be seen that the argument thus outlined is a purely psychological or educational one, and takes no account of the social and economic benefits that are known to result from manual training. Though these benefits are great, it is obviously out of place to urge them as other than addenda to the main argument. Many persons lay the greatest stress on the social and economic benefits referred to, and thus confuse the argument for technical education with the argument for manual training in the public schools. 'Industrial education' is the title used to signify the education which includes manual training, but it is also often used as synonymous with technical education. The failure to discriminate between these two significations of the phrase 'industrial education' has caused much confusion, and almost all of the arguments that are advanced against manual training are traceable to a misconception of what manual training really means. Even those teachers and others who advocate manual training are not always clear as to what it means. They often speak of substituting manual training for mental work. This is incorrect. The substitution is of one form of mental work for another. Manual training, in the sense in which it is here used, is mental training. It is a training of the mind to accuracy of perception and truthfulness and readiness of expression. If manual training were non-mental and non-disciplinary it could have no proper place in the public-school course. The schools are not established for the purpose of teaching pupils how to make a living, but to teach them how to live. They are not to teach trades, but to educate.

"The argument for manual training asserts that the power to express and use knowledge is an essential part of the process of acquiring knowledge. It claims that in the past the powers of expression have been neglected in education, and that the appeal made to them in the instruction in reading and writing is not sufficient. It points out, too, that nowhere in the present school course is any provision made for training the judgment and executive faculty, than which no mental powers are of more practical importance. The instruction in delineation and construction, which is included in manual training, appeals directly to both these faculties.

"It will now be seen, it is hoped, that the argument for manual training in the common schools is psychological and educational. It is not economic or utilitarian."

Let us illustrate this further. If I have an idea in my mind, and wish to express it, I may put it in written or spoken language. This is one medium of conveying my idea to the mind of another person. It is, however, quite imperfect. Nothing is

more frequently misunderstood than language. If this language is now more fully illustrated and explained by a sketch or drawing the idea is still more clearly and definitely conveyed. Again, if this language and drawing are now embodied in a material form with the proper dimensions, forms, colors, substance, etc., the idea is still more fully expressed and conveyed. In fact the idea is developed into a substantial and tangible reality, while by the use of language alone it could never be brought to this point. Now the man who can express himself, however well, in language, may be well nigh powerless, when thrown upon his own resources, to execute anything. His thought can not take effect upon matter, by the mere use of language, without the intervention of the man who knows how to execute. He is cut off, so to speak, from the physical world around him, a motive power, a magazine of force, an engine without connecting machinery. He knows how a thing should be done, but he can not make a sketch or working drawing illustrating how it should be done, nor can he take hold and do it himself. His thought is half wasted from this disability. Hence the phrase "thought expression" used in the above definition might be explained as thought realization or thought practicalization—the process of reducing thought to completed action. It will scarcely be denied that this is a faculty which all men should possess.

THE CONSERVATIVE ARGUMENT.

In one of the leading educational journals of this country one of the most distinguished educational authorities has expressed views in opposition to the introduction of manual training in the public schools that have attracted considerable notice. As each argument appears unanswerable when considered separately, we will take the liberty of comparing them and endeavor to find wherein they are not in unison. Dr. Dickinson says:

"Suppose, then, it is admitted by those best able to judge, that the proper function of the public school is to furnish the occasions of symmetrical human development, it still remains to determine what are the occasions of this development.

"Human development is produced by the right exercise of power. In school the occasions of this exercise are objects and subjects of thought. These, collected and rightly arranged, constitute our public school courses of study.

"If, therefore, the courses of study used in the public schools are defective, the mental development produced by pursuing these courses will be defective also. In criticising the school, then, we must first turn our attention to defects in the products, and second to the defects in our school exercises that have occasioned the defective products. In criticising results it is said that the children pass out of their classes in school into active life without being prepared for anything. They may have some information, but they seem to have very little actual knowledge. They may be able to understand what is explained to them, but they have neither the ability nor the inclination to produce anything by their own

independent activity. They may have some power of thinking, but they cannot realize their thoughts in any product outside their own minds. Their capacities have been trained, but their faculties have been neglected.

"These statements are made by those who, dwelling upon the products of their imaginations, neglect to observe for facts. Nevertheless the criticism has some foundation and directs our attention especially to one defect charged against the schools. This defect consists in a failure to train the children to an independent use of their powers. It is proposed to supply the deficiency by introducing into the school exercises a training in the use of mechanical tools. This is to be done not for the sake of the manual dexterity that may result, but for the general development of active power that may be produced. For no other reason than this can the practice with mechanical tools find a legitimate place in the public schools.

"Admitting that the defects in our present school work actually exist, it does not follow that they are due to defective courses of study, nor that they may be removed by adding the operations of the workshop to the list. Both these things are assumed, but neither of them has yet been proved to be true.

"Mere manual dexterity acquired without reference to invention or construction is the product of imitation. To produce it requires a simple practice in imitating a few mechanical motions made as examples to be imitated. After a sufficient number of repetitions the states of mind which are the causes of the movements of the body are hardly the objects of consciousness at all, and the individual moves on under the influence of the mechanical principle of action. Great manual skill is often found with those whose general intelligence is of a low order. If this is true, it follows there is no necessary connection between the two.

"By long continued imitation men seem to become very much like the machines they use. In our experience I am sure we have all found instances of this kind. Such persons become skilled in imitating, but at the same time they may be wanting in independent and progressive power. They may be wanting in that general intelligence which is necessary for the regulation of their private conduct as individuals or of their public acts as members of a self-governed state.

* * * * *

"It does not appear that mechanical dexterity holds any necessary relation to general intelligence or to virtue.

"To cultivate it in the schools must distract the mind from its legitimate disciplinary work and lead it to pursue other and inferior ends. The president of a western industrial institution recently read a paper before a convention of public school teachers which contains the following statement: 'I have not been able to discern such valuable results from hand culture as my friends seem to find. I do not find that the exact construction of a box leads to the exact construction of an English sentence. But mechanical students need as much drill as any others. I have not found that students in mechanical courses are specially good in their mathematical work. On the contrary, I do find that the best workers in wood and metal are they who have clear thoughts and can express them clearly, and who have mathematical ability.'

If it be considered that the advocates of manual training desire to introduce it, not for the general development of mental power, but for the "mere manual dexterity" that may result. Dr. Dickinson certainly repays the compliments that those he opposes have been paying the public school system as to the mechanical manner in which the pupil there performs his tasks. The experience of the president of an institution in the West, though convincing as to the necessity of mental training, would seem to ignore that manual training is not to supersede, but, as it is claimed, to supplement it.

But what is the specific difference between these arguments so far as the latter has been given? On one side a defect is charged, and a remedy—"construction and delineation"—offered. On the other, construction, under the title of mechanical dexterity, is flatly denied as a remedy for the

imputed defect and delinquent, under the title of drawing, admitted in the following terms:

"Drawing," Dr. Dickinson continues, "has an important educational value, and should be introduced into every public school in the land. It implies a careful and prolonged observation of things to be described. It presents occasions for the free exercise of judgment, imagination, and invention." Nor is there apparently any material difference between the educator and the association as to the result to be obtained by education. In concluding his article Dr. Dickinson uses the following forcible language:

"My friends, if we desire to construct such a system of public instruction for the youth of the country as will best prepare them to discharge with efficiency and fidelity the duties of private and public life, let us make ample provision for the complete training of the powers of observation, for an accurate knowledge of facts, of analysis and comparison, for a knowledge of the relations of things, of generalization and reasoning, for a knowledge of those general truths from which the rules of conduct should be derived, and, above these things, for that training which leads to an all-controlling love for the truth; and the youth will take their places in life elevated above the narrowing effects of any trade, occupation, or profession, and ready to enter upon any service to which they may be called." The association says with emphatic brevity that manual training is a training of the mind to accuracy of perception and truthfulness and readiness of expression. The schools are not established for the purpose of teaching pupils how to make a living, but to teach them how to live.

Construction or mechanical dexterity, as either side may prefer to call it, is then the main point of difference. Now, what defect is it intended to remedy? "Nowhere in the present school course," says the association, "is any provision made for training the judgment and executive faculty than which no mental powers are of more practical importance." "What changes do we need?" says Dr. Dickinson. "If the defect is found in a failure to cultivate practical power, then the change we need is not so much in the course of studies as in the method employed in presenting these courses to the learner's mind. If the children graduate from the schools without the ability to do any independent work, it is because their school exercises did not permit nor require them to do independent work in mastering their lessons. The great reform we need will be introduced by turning the learner's mind from words to things; I do not mean physical things only, but all things which may be made objects of thought. * * * The pupil may become an original investigator by being trained to handle the objects of his investigation. This training leads to self-control and prepares one to take up the work of life with every prospect of success." In this there exists substantial agreement, although Dr. Dickinson speaks rather hypothetically as to the reality of a defect; indeed, the last argument is the more reasoned.

But what kind of investigation? And here it is that the difference appears. Having first recalled to the reader's attention that tool instruction is said to be demanded by the advocates of manual training, we will quote once more and finally from Dr. Dickinson:

"If the children in our elementary schools could be trained to study in a philosophical way the elements of the sciences, they would not only prepare themselves for the future pursuit of the sciences themselves, but at the same time they would be put to those exercises that are best adapted to train the mind to a skilful use of the hand and eye."

PHILOSOPHICAL APPARATUS AND SCIENTIFIC KNOWLEDGE OPPOSED TO TOOLS AND CAPACITIES FOR USEFUL ACTION.

Philosophical apparatus is thus decidedly preferred to tools, as merely requiring a change in the manner of teaching a subject that has already been introduced into academic and perhaps, in some instances, into lower grades of the schools, and is now acknowledged to be in harmony with

their object. This suggestion is supported by the remarks of a writer in a journal* of the highest standing, which we quote:

"The pleas for manual training as an educational measure are many, and as the methods employed in instruction must necessarily depend upon the end expected, it may not be amiss to examine at least the leading theories:

"Such a critique, nevertheless, based upon the campaign of words, if we may so call them, of the different advocates, in the absence of a full exposition of their views, must be made rather in the form of suggestion than otherwise. Thus the first encountered is that of the *development of perceptions*. One would assume a psychological basis if the age of the pupil corresponded with the programme in view; but in the present application perception means sharpness of the sensorium, the first stage of mental growth in the child, generally expected to have been accomplished in the kindergarten; afterward, object teaching in the elements of natural sciences, aided by collections, etc., would do quite as well, and, moreover, would produce as a beneficial result certain general knowledge not attainable from the simple manipulation of tools." It will be observed that "general knowledge" is here balanced with "simple manipulation" to the advantage of the former.

Comparing these suggestions with the statement made by Lord Armstrong, the head of the Elswick Company, which employ 13,000 men and boys, but better known to the American public as Sir William Armstrong, of rifled cannon fame, considerable difference of opinion in this matter is shown. Lord Armstrong, consulting his experience, prefers capacities for *useful action* to the possession of mere knowledge.

In an article entitled "The Cry for Useless Education,"† a reply to a criticism‡ by Sir Lyon Playfair, president of the British Association for the Advancement of Science, on Lord Armstrong's article, "The Vague Cry for Technical Education,"§ this distinguished engineer observes: "A man's success in life depends incomparably more upon his *capacity for useful action* than upon his acquirements in knowledge, and the education of the young should therefore be directed to the development of faculties and valuable qualities rather than to the acquisition of knowledge. * * * I can affirm with confidence that had I acted upon the principle of choosing men for their knowledge rather than their ability, I should have been surrounded by an incomparably less efficient staff than that which now governs the Elswick works."

It is necessary to ascertain what Lord Armstrong means by knowledge and "capacities for useful action." To give this we will quote from "The Vague Cry for Technical Education," an article that caused Sir Lyon Playfair to wonder why the author was not a member of the "Technical Association" of England:

"In expressing my own views on popular education, I must address myself in the first place to the present system of primary or elementary education, which is now very generally considered to be ill-adapted as a preparation for the business of life. That system has, in my opinion, the radical defect of aiming at instruction in knowledge rather than the training of the faculties. * * * Not only should the mind be trained in habits of thought, and in quickness and accuracy of perception, but the hand, the eye, and the ear should all participate in training exercises calculated to make those organs more available as instruments of the mind. * * * Except, in teaching the art of writing, no attempt is at present made to educate the hand. The addition of drawing would be a step in the right direction, and would afford a useful accomplishment, but would not supply all that is needed for giving dexterity to the hand. Appropriate exercises ought to be devised for cultivating its mobility, precision, and delicacy of touch; and if, in so doing, the ability to use simple tools were acquired, *it would be advantageous in any line of life that*

*Popular Science Monthly, July, 1888; Manual or Industrial Training, by Prof. G. von Taube.

†Nineteenth Century, November, 1888.

‡Nineteenth Century, September, 1888.

§ Nineteenth Century, June, 1888.

might be ultimately adopted. Every man and woman would be the better for pre-acquired manual dexterity, but to attempt to teach children special trades and processes of manufacture would, I conceive, be a mistake."

We can now return to the "Cry for Useless Knowledge," and quote some important lines without fear that they will be misunderstood. "Sir Lyon Playfair declares himself an advocate of including within the scope of technical education the teaching of specific trades and industries. I, on the contrary, say that workshops and factories or other places where actual business is carried on are the proper schools for the learning of such trades and industries. Here at once we stand face to face in diametrical opposition. Nor is our agreement more apparent in his definition of the object of technical education, which, he says, is 'to give an intelligent knowledge of the sciences and arts which lie at the basis of all industries.'"

It would certainly appear from the foregoing that Lord Armstrong, though no believer in teaching trades, is strongly in favor of manual training as that term is used here, and that if Sir Lyon Playfair, an enthusiastic advocate of technical training, courted his alliance as one "cool of judgment, unaffected by enthusiasm or emotion," his expression in favor of manual training should be of considerable weight. But it is not our purpose to discuss the respective merits of the two systems for accomplishing the double object of educating the "executive faculty" and giving "dexterity to the hand." Assuming that a "philosophical" study of the sciences, together with the manipulation of scientific apparatus, is equally adequate to accomplish this twofold end, as the advocates of the other system claim that tool and "construction" work are, it would appear that the matter is merely a question of utility—would the ability, capacity, as Lord Armstrong calls it, of making a delicate scientific experiment, be of more use in every day life of the great majority than the ability to make a table?

From considering transatlantic opinions let us turn to the consideration of a transcontinental one. The paper from which we shall quote bears the title, "Sense Training and Hand Training in the Public Schools," by Professor Le Conte, of the State University of California, in which he has the chair of geology and natural history.

Psychical life, he said, is made up of three departments—the senses, the intellect, and the will; that is, observing, thinking, and doing. Development is only possible through the co-operation of these. In natural education the three are co-ordinate, but they are not co-ordinate in the artificial education of the school room, for that is at best but reading, thinking, expressing. By construing passages, solving problems, and writing exercises, good hard work may be obtained, for language, mathematics, logic, and philosophy are admirably adapted to book methods. But book work in science is a sham; of all school studies it is the most trifling. Science must be taught by new methods. Observing and doing must co-operate with thinking. There are three great departments expressly adapted for this co-operation—natural history, drawing, and hand work.

"Hand work [we regret that our object permits us to give the line of argument on this head only] does not mean trade work," industrial work, as this office is calling it. "There is a kind of perversity in the average mind on the subject of education. If there be any chance for a wrong point of view it is sure to be taken. This subject, under the title of 'manual training,' has been much discussed of late, but mostly by both friends and foes under a misconception of its true function. It is urged by the people and by many educators because of its supposed practical utility, because it prepares for life in a special way, because it is an apprenticeship to trades. * * * Why should our schools prepare for one pursuit more than another? Why trades more than professions and shop-keeping? By all means let there be trade schools, technical schools, special schools of many kinds, if it be deemed necessary, but let not these be connected with our public school system. * * * Hand work, if introduced at all, should be, not for making carpenters or blacksmiths, but to train the brain by co-operation of hand and eye."

THE NECESSITY OF MANUAL TRAINING TO THE CITY BOY.

There is another point of view from which this subject of manual training may be considered, and as it will aid in fixing the difference between manual training and industrial or trade training, the indulgence of the reader is asked while a quotation is given from General Francis A. Walker's paper on "Manual Education in Urban Communities." Those who have remarked that our great men have spent their early years on a farm, and who believe in manual training, may perhaps, in this, find a reason for their greatness.

"In the country the boy finds a hundred opportunities, alike at work and at play, for acquiring much of that which can only be given to the city boy by way of formal instruction. Whether in his daily stint of labor upon the farm, about the house, the barn, the sheds, or in his sports or rambles upon the village green, over the field, through the woods—the country boy has incessant occasion to use his hands and his eyes; to observe, to plan, to do." The writer then speaks of the benefit of systematic instruction and continues thus:

"Yet in spite of the deficiencies which remain, after almost any amount of spontaneous practice at work or play, or practice under direction from those who are masters, neither of the special arts involved nor of the general art of teaching, what the country boy enjoys in the way of training hand and eye to be true servants of the mind; what he enjoys in the way of opportunities and incentives for making the mind itself the real master of life, through a well-round and harmonious development of all the powers, through the creation of the spirit of self-reliance, through the exercise given to the constructive and executive faculty, is almost infinitely greater than that which falls to the lot of the unhappy city boy of to-day. Out of school what has the latter to do with himself, his time, or the energy given to him, as we are wont to say, for some good purpose, though it would puzzle the most devout and the most ingenious to tell for what purpose energy should have been given to a boy condemned to live in a modern city?"

MANUAL TRAINING NOT TO SUPERSEDE BUT TO SUPPLEMENT.

If, as Professor Huxley says, the present work of the schools is too bookish; if Lord Armstrong is perfectly correct in asserting that the present system of elementary education has the radical defect of aiming at instruction in knowledge only; if the defect is found in a failure to cultivate practical power, as Secretary Dickinson hesitates to admit and the New York Industrial Association unhesitatingly asserts, then it is a mere truism to say a remedy is needed. The advocates of manual training urge its claims on educational grounds. These grounds we have found are not urged in hostility to the object of the public schools, but rather with the view of assisting them to attain it; in brief, the principal difference lies in the manner and means of attaining a desirable end rather than in a difference of aim.

The following paper read by Superintendent Bradley of the Minneapolis public schools before the annual meeting of the National Educational Association at St. Paul, sets forth in a lucid and masterly manner the psychological and educational benefits of manual training. The paper is so valuable and suggestive in all its parts that we print it in full:

MANUAL TRAINING IN GRAMMAR GRADES.

Progressive movements are often misunderstood. The mind is slow to grasp great truths and does not comprehend them in their full significance till educated, step by step, to understand them. Testing their value by false standards, we unduly exalt or prematurely reject them. We unconsciously distort or misinterpret facts and lean in our conclu-

sions towards preconceived opinions. So largely are we the creatures of education and environment that we can only hope to see truth—not through the prism of prejudice, but in its own white and unbroken light, by patient study of all its details. Before considering, therefore, what branches of manual training shall be attempted in grammargrades, we need to determine what aim and purpose we wish to promote.

The term manual training carries widely different meanings to different persons. One sees in it the subversion of our educational system to empiricism and a fruitless attempt to develop the mechanical industries instead of the elements of manhood. To another, it means the emancipation of the schools from formalism, the infusion of vitality into their work and the solution of great social problems. Too much has been claimed for manual training by enthusiastic advocates. Groundless fears and objections have been raised by its opponents. Our present need is a true estimate. It will be my purpose in this paper, *first*, to state some of the ends aimed at in manual training; and, *second*, to offer a few practical suggestions on its incorporation into the regular work of the schools, looking at the subject, not with the eyes of the enthusiast and specialist, but from the standpoint of the teacher wishing to maintain due proportion in educational work and to give due emphasis to that which is most important.

1—First, then, the aim in manual training is, as the term implies, the discipline of the hand. Why should this end be ignored in a symmetrical education? Are the uses of the hand unworthy of consideration? Does its mechanism indicate that this member of the human body is of small account? The anatomist tells us of the thirty bones in its framework, their marvelous adjustment and the facility with which the thumb may be brought in contact with each of the fingers. He describes its arteries and veins and its net-work of beautiful ribbons and bands, twenty of which must unite, we are told, to produce the slightest movement of one of the fingers. But how little can he tell us of its countless nerves with their facile control of every muscle and joint; and who shall explain the infinite number and variety of messages transmitted from the finger tips to the centers of thought and volition? Or who shall make known the secret of their prompt response to the mandates of the will? Sir Charles Bell, reflecting upon these things in his Bridgewater treatise, declared himself overwhelmed with the evidence which they afford of the "wisdom, goodness, and power of the Creator." Do we need arguments to convince us that such an organ should be developed and perfected? Or that we should be permitted to enjoy its best service and use?

If, now, it is maintained that nature will take care of the development of the hand, and that our trouble is unnecessary, I reply that the assumption is as gratuitous as it would be to assume that nature will take care of the training of the brain. No mental faculty or bodily organ improves more rapidly under cultivation than the hand. None is more in need of training. Note the clumsy weakness of the little fingers as they attempt the first exercises in paper-folding or drawing. See how awkwardly the childish hand grasps its first pen. Let a few years elapse and observe the result of judicious training. The handwriting is regular and legible, the drawing is correct and begins to be artistic, while the manipulation in paper-work, needle-work, and clay-modeling commands our admiration. Every movement is firm and graceful. Can any one doubt that the results of hand-training in such children have fully kept pace with the results of intellectual training? Look a few years later at the products of higher manual training. Compare the specimens of carpentry, woodcarving, and metal-work with the original essays and mathematical demonstrations in the high school. Which affords the greater evidence of progress and improvement? Can any reason be assigned for giving exclusive attention to the brain to the neglect of the hand in our educational work?

2. Again, the aim of manual training is the education of the eye. What has been said concerning the discipline of the hand is equally applicable to the training of the eye. We are dependent upon it for our ideas of color, form, and symmetry, and these ideas are among the most

practical and intimate to our daily life of any that we possess. As the eye is trained these ideas become definite and correct.

Few of us realize the improvement of which the organ of sight is susceptible under specific training. The sailor will clearly discern a distant ship and count her masts, before the landsman can discern the slightest speck. The lace-weaver, while passing hundreds of bobbins over and under one another with marvelous rapidity will detect at once the slightest defect, and catch up a stitch or tie a knot with almost instantaneous celerity, when the ordinary observer will hardly see what has been done. Engravers at first work with a glass, but their sight improves with their skill until at length they execute the most difficult and delicate work with the eye unaided. So admirably does nature respond, in such cases, to the demands made upon her for more exact and perfect work! What a pity that such a wonderful piece of mechanism as the eye should render us only half of the service of which it is capable!

3. Thus far we have spoken of the hand and the eye as bodily organs. Let us now consider them as instruments of the mind.

"Nature, crescent, does not grow alone
In thews and bulk; but as the temple waxes,
The inward service of the mind and soul
Grows wide withal."

Here we reach the most important end in objective teaching. The value of manual exercises is to be determined principally by their influence upon the mind. The ultimate aim is educational. Give the child possession and control of all his powers. In so far as the mental is higher than the physical nature, it is entitled to permanent consideration. The supreme end of manual training, as of all education, is the harmonious development of the entire human being. Manual dexterity is an indication of a certain kind of mental power, and the mental power is developed along with the dexterity. When the dexterity is fully established the mental growth also ceases and the exercises should be changed.

Our third aim, then, in manual training is the education of the perceptive powers, and the formation of clear and correct habits of thought. Whatever theory we may hold with reference to the higher problem of philosophy, all will agree that there can be no knowledge where there has been no basis in perception. Our aim in educational processes is to furnish such materials through the avenues of sense as will cause the mental faculties to act with ease and vigor. In education seeing is more than believing; it is the beginning of knowledge. The development of intellectual power can only be secured by supplying the materials for intellectual activity. The perceptive operations precede other forms of mental action. The growth of a child's mind is like the opening of a flower; one after another its faculties unfold and expand, each in its proper order. It is impossible to reverse this order, and to attempt to do so, in our educational work, is like tearing open the bud in a vain attempt to produce a premature blossom.

Supply the perceptive powers, then, with abundant materials during the period of their development. Make the conditions favorable and the growth will be rapid—unfavorable, and school will but check what nature is already accomplishing. How does a child learn so much during his first five or six years? By simply following the promptings of nature. The restless activity, the fickleness and the inquisitive instincts of the child have wrought to a grand result before he enters school. Let us not arrest, but guide this growth. If we succeed the child will never know the weariness and ill-temper which comes with irksome and unnatural restraint. He will enjoy school work because his faculties are exercised in accordance with the laws of their normal development. His mind will seize and assimilate knowledge as unconsciously as the magnet attracts iron. But the materials furnished must be such as his mind can appropriate. They must be adapted to his age and mental cravings. Otherwise the weariness and mischief-making, which indicate intellectual starvation, will be manifested. As well might we expect the flower to bloom without warmth and moisture as to look for a harmonious growth to which surrounding conditions do not minister. As well

give a stone to the child who asks for bread as to offer him mental food which his mind cannot appropriate.

Interest is essential in training the child's perceptive powers. His capacity for voluntary attention is very limited. He may listen respectfully to his teacher. He may bravely endeavor to attend to that which does not interest him; but nature soon asserts itself and the faculties flag and refuse to act; abstract and general statements do not come within the sphere of a child's interest. But let the teacher bring well-selected objects into the school room; let her distribute them among the pupils and elicit the results of their observation and their spontaneous attention will evince the vigor of their intellectual activity. Efforts to this end are systematically begun in the Kindergarten and First Grade; they never should be discontinued in all our educational work. Of late, all are agreed in theory that occupation should be furnished for the sense-organs in training the child. But so little impression has been made upon the actual practice in most schools, that this necessity of the child nature needs to be continually urged. Teachers should not be allowed to forget that the intellectual fabric which they seek to build must have a solid foundation in sense-knowledge. Sully says: "Thought will be loose and inaccurate when the preliminary stage of perception has been hurried over. The first-hand knowledge of things through personal inspection is worth far more than any second-hand account of them by description." And Porter, always conservative and stately, remarks that "the perfection with which this power can be exercised depends on the interest and training of the individual. Different persons acquire, by special discipline, special power to perceive certain classes of objects. What a man is, is exemplified by what he perceives."

Manual training, then, should not be regarded as a new subject, as a counter-claimant with other branches of a limited amount of time and mental energy, but rather as a system of educational methods which recognize the necessity of addressing the child's intellect through his senses. It aims at the production of thought-power by supplying an abundance of thought materials. It develops the capacity for voluntary attention by creating conditions which require it. The child who is moulding clay, the boy who is cutting a mortice, the young man who is carving a panel, *must* attend. With them, interest and spontaneous attention pass unconsciously into voluntary concentration of mental energy. They cannot sit listlessly with books before them while their thoughts fly away to the skating-park or play-ground. They cannot delude themselves with the idea that they have studied two hours when they have not really applied themselves ten minutes. They acquire—they must acquire—the power of observing closely and accurately. They learn the great lesson of ascertaining just what is to be done before attempting to do it. They learn the dependence of one thing upon another, and that each step in a process must be taken in its proper order. They learn that carelessness and mistakes destroy good work, and that every faculty must be alert in order to secure the best results.

A generation ago, nearly every boy gained a practical familiarity with some employment at home. The farmer's son secured a good muscular development by assisting his father out of school. He learned how to use his hands. His quick and accurate eye was trained to observe every feature of an object. But nothing gives our modern city school-boy any such opportunity. And this one-sidedness of his educational environment is a serious loss to his teacher as well as to himself. Children need objective teaching. It is difficult for them to think in the abstract; it is easy and natural for them to be interested in individual objects—in things which they can themselves handle, in work which they can themselves do. The child who is confused and wearied with intellectual work will be made happy and refreshed by something to do with his hands. He learns to think, as is natural for the child, in the concrete. He learns the qualities of objects and manifold facts which can only be gained by actual experience. The judgment and powers of comparison are developed. The taste is stimulated and conformed to correct standards.

Manual exercises, then, are an important auxiliary in the formation of

correct intellectual habits, not only because they require close attention, but also because they supply accurate materials for the processes of thought. Men who possess a high degree of intellectual penetration are always close observers. Good analytical powers imply vigorous perceptive powers. The shadowy and disconnected materials furnished by careless observation fail to enrich the memory and imagination. Close deduction and reliable influence cannot be drawn from inexact or insufficient data. Every intellectual faculty is enfeebled and its product obscured by indistinct or indifferent perception. All mental operations are clarified and brought into harmony by uniform reliance upon clear and definite knowledge. Such a thinker walks in the light. He feels no distrust of his conclusions because he sees the ample foundation on which they rest. He proceeds with confidence because his lines of thought and action are clearly apprehended. His mental habit compels him to stop before a doubtful step has been taken. How much of the vague and shallow thinking which pervades the community would be re-invigorated if all were trained to apprehend clearly the grounds on which their opinions rest. How much more effective would be our thinking and our work if it all rested upon a sure and well-laid foundation in perception.

Moreover, the child can learn no lessons at school which are of greater value than the virtues of industry, perseverance, and genuineness. It is not claimed that this education has the power to overcome all the faults and weaknesses of human nature. Those who demand such results from the public schools will always be disappointed. But it is already apparent that manual training, especially in its more advanced work, stimulates the best elements of an upright character. The boy who has learned to apply him-self till a specific thing is accomplished has taken an important step in moral training. The universal weakness of human nature, until trained and disciplined, is a tendency to do things imperfectly, partly from ignorance, partly from reluctance to make the requisite effort. Habits of thought react upon fundamental traits of character. The boy who has learned precision and adaptation in the use of tools has also learned a lesson which will serve him in other departments of training, in social and moral relations. Any means or system of training which will help a boy to overcome a dislike of work and a disposition to do things carelessly is of a great educational value though nothing else come of it. He who has conquered difficulties once will more easily succeed a second time. The skillful use of tools and materials in the production of any article is intimately related to that moral *grit* which will find a means of accomplishing any needful end. The boy acquires in the workshop the habit of overcoming difficulties and persisting in an undertaking till it is crowned with success. Every boy in the royal family of Germany is taught to work with his hands, not that he may fall back upon it, if necessary, as a means of earning a livelihood, but that he may acquire the power of doing things. Character, stimulated and re-enforced by honest effort in one pursuit will not fail when brought to the test in other and more important relations.

Let us now attempt to apply these principles in answer to the question, What kind of Manual Training is appropriate to the Grammar Grades?

We require, *first*, bodily exercises which involve a maximum of in intellectual activity; *second*, those which are interesting, and *third*, those which savor of work rather than play.

1. Drawing should render far greater service in this direction than it has hitherto done. History, geography, animal lessons, plant lessons, and much of the other work of the grammar grades will be greatly enriched by combining the drawing with them. A pupil's interest is wonderfully stimulated when he finds that he can make practical use of his drawing in his other school-work. He discovers a new significance in a subject when he finds that he can illustrate it with a picture. The sketch and the description stand side by side; they supplement one another, and the double expression gives far more than a double value. He makes a drawing of the animal whose habits he describes. He embellishes his historical narratives with such illustrations as will make the scenes more real. As he grows older he gives you a glimpse of the objects of interest

which he has seen in his imaginary geographical tours. He paraphrases a classical poem and accompanies his literary work with a picture of the castle or bellry-tower to which reference is made. In this way, the hand, the eye, and the taste are at once trained, and the habit is formed of giving clear and adequate expression to every idea one wishes to communicate. Drawing has now been taught in the public schools for fifteen years. No teacher is longer acceptable who has not learned to draw. The best teachers make constant use of the black-board. They should train their pupils to be equally accustomed to graphic illustration. Almost everything taught in the schools thus becomes tributary to language teaching, and all the school-work contributes to that practical habit of thought which associates the daily routine of school with actual life. Let us cease to imagine that in training the powers of thought or expression we need to ignore the world of to-day with all its busy interests. Let us teach our boys and girls to know and to love that which is beautiful and good all about them.

2. Nor need this work be limited to drawing. The clay-modeling of the primary may well be developed into more artistic forms and continued in the upper grades. It affords admirable training, and has been successful wherever tried. When a pupil has learned to draw an animal or a basket of fruit, let him reproduce the article in clay with appropriate coloring. Relief maps, and other expedients for making real the facts of geography and history, should be made a part of the regular grammar school work. Sand, putty, salt, and various other materials are used. Elaborate and beautiful work of this kind is now produced. Fortunately, schools which cannot attempt the large and expensive pieces prepared in some places, can do just as profitable work on a smaller scale.

3. The construction of geometrical solids out of thick card-board affords excellent training for the eye and hand. This work leads inductively to a knowledge of geometry, that noble science whose cold abstractions and theorems have been the terror of many a student when a more favorable introduction would have led to an agreeable acquaintance. By combining these geometrical solids, having one penetrate another, interesting and highly disciplinary problems are presented.

At what age pupils may wisely begin to work in wood is much disputed. The cause of manual training has not gained in intelligent interest and confidence by the attempts to anticipate the ordinary physical development of children. A boy of nine or ten years is not capable of handling carpenter's tools in a safe and proper manner. He has neither the strength nor the steadiness to use such tools. He is not yet capable of taking an intelligent interest in such work. It is as premature for him mentally as it is physically. They who propose putting little children to manual exercises which are beyond their years are guilty of as serious a disregard of psychological principles as are they who tax and weary the childish powers with complicated processes in arithmetic and grammar.

It does not follow, however, that excellent training of hand and eye may not be obtained by various forms of wood-work in the grammar grades. For pupils between ten and thirteen years of age a variety of exercises in whittling may be provided. In some schools this work has been systematized and brought into line with the drawing and day-work. Cubes, prisms, pyramids, cylinders, and other fundamental forms are carefully shaped with the knife. These type forms are then modified or conventionalized into various familiar articles. An almost unlimited variety of objects may thus be produced. The expense is very slight. We have depended entirely upon the bits of lumber from the manual training shops for the materials for this work.

In these grades many of the exercises of the Swedish Sloyd may be introduced. This system is especially to be commended for its simplicity and inexpensiveness. The earlier exercises, such as making a pointer, a bird's perch, or a flower stick, are not too difficult for ordinary pupils with an ordinary teacher, and the work can be done in an ordinary school-room. In wood-working, as well as in other school exercises, there is danger of making the first steps too difficult. The limitations of the sloyd are, however, apparent, and I question the wisdom of the principle that each

exercise must be a completely finished article. Its great merit is its availability. It is closely related to the drawing, develops the sense of form, and is well adapted to gain the interest of pupils.

For the last two years in the grammar school, when pupils are from thirteen to fifteen years of age, a carefully selected course of exercises in carpentry and cabinet work affords, perhaps, the best manual training. Even here, the heavier tools should be avoided and care taken not to overtax the pupil's strength. The exercises should be short and should lead up to the manual training work of the high school. A work-shop is, of course, a necessity, but it need not be elaborate or expensive.

I have no desire to differ from those who propose to put wood-working tools into the hands of the girls, but it would seem that something more appropriate might be found for them. Every girl should learn to sew; indeed it is surprising that all girls are not taught plain sewing at home. But every teacher can testify that many mothers never attempt so slight a matter as mending their children's clothes. Multitudes of women are utterly ignorant of the use of the needle, and girls are left to grow up in rags simply because they have never been taught to sew. The educational value—the effort upon the mind and character—of learning to sew is equal to other forms of manual training, and the practical and social bearings of the instruction invest it with peculiar importance. The use of the needle has long lain at the foundation of domestic thrift, teaching those lessons of economy, self-support, and self-respect which are so essential to an upright character. The difficulties which stand in the way of introducing wood-work and metal-work into the schools do not apply to needle-work. The instruction can be given by the regular teacher.

In conclusion, I am persuaded that all necessary training of the hand and the eye can be secured in our schools without displacing or antagonizing the present work. In so far as too much emphasis is now placed upon drill and technical instruction, a change is desirable, but no one need fear that manual training will crowd out mental training. The present work of the schools is rather to be enriched and receive a new impulse. Nothing really valuable is to be sacrificed by the progressive movement. Working with clearer and more definite aims, the teacher will accomplish more and with added interest and joy in her work. Higher motives will give her new inspiration. Her pupils will catch her enthusiasm and the schools will become a still greater power for the elevation and refinement of the community and the training of symmetrical and upright character.

We produce the following important testimony from the experience of other countries, to show the effects of this education upon the progress of the industrial arts. Perhaps the most striking evidence of this kind is found in the statements of the English jurors and exhibitors (at the international exhibitions of 1851, 1862, and 1867,) and other eminent men in regard to the marked progress of continental nations as a result of their encouragement of general and technical education. This testimony is so important that we introduce it here.

NATIONAL EDUCATION THE TRUE PROTECTIVE SYSTEM.

Upon this ground, surely, the free-trader and protectionist can unite. No American statesman will be unwilling to give to the American workman the advantage in the great industrial competition of mankind which results from superiority of knowledge. Upon this superiority is to depend hereafter the success of nations in manufactures and the mechanic arts, and what that success brings with it, wealth, navigation, commerce and military and naval power. One of the most thoughtful men of the pres-

ent day, Dr. Lyon Playfair, the eminent chemist, gives this weighty testimony:

With the improvement of locomotion, the value of raw material as an element of manufacture is decreasing, while the value of skill and intelligence is increasing.

The last fifteen years have witnessed perhaps the most remarkable revolution which has taken place in the industries of mankind, and which has occasioned a degree of excitement and of alarm in England scarcely surpassed by her dread in 1860 of an invasion by Napoleon. She was rudely awakened from the haughty dream of contemptuous superiority in which she had so long indulged by the Paris exposition of 1867. In 1851, sixteen years before, at the World's Fair, held in London, the palm of excellence above all her competitors had been adjudged to England in nearly all the grand departments into which the exhibition was divided. In 1867, out of between ninety and a hundred departments, superiority was adjudged to her in only ten. You can well imagine, Mr. Speaker, the alarm which that fact, when it dawned upon the jurors and other representatives of England, and on the minds of her manufacturers at home, created. The English jurors and exhibitors held several meetings at the Louvre Hotel, and with one accord they expressed the opinion that the cause of the inferiority of England is the better scientific education given to the artisans of the continent by the recently introduced technical schools.

The report made to Parliament by the commissioners, and published among the British parliamentary documents for 1868, contains testimony on this subject from English jurors, and other persons of the highest authority.

INQUIRY COMMISSION.

Dr. Lyon Playfair, who acted as juror in 1851, 1862, and 1867, says:

'I am sorry to say that with very few exceptions a singular accordance of opinion prevailed that our country had shown little inventiveness and made but little progress in the peaceful arts of industry since 1862. Deficient representation in some of the industries might have accounted for this judgment against us; but when we find that out of ninety classes there are scarcely a dozen in which pre-eminence is unhesitatingly accorded to us this plea must be abandoned. My own opinion is worthy only of the confidence which might be supposed to attach to my knowledge of the chemical arts, but when I found some of our chief mechanical and civil engineers lamenting the want of progress in their industries, and pointing to the wonderful advance which other nations are making; when I found our chemical and even textile manufacturers uttering similar complaints, I naturally devoted attention to elicit their views as to their causes. So far as I could gather them by conversation, the one cause upon which there is the most unanimity of conviction is that France, Prussia, Austria, Belgium, and Switzerland possess sound systems of industrial education for the masters and managers of factories and workshops, and that England possesses none.'

Rev. J. O. Norris, late one of her Majesty's inspectors of schools, says, first—

'It is the universal opinion of those with whom I spoke that England is losing her advanced position in those industries which involve the application of science to production.'

Second, that—

'In the matter of higher instruction, of all that tends to convert the mere workman into the artisan, Austria, France, and Prussia are clearly passing us.'

— Prof. John Tyndall, professor of physics in the the Royal School of Mines, says:

'The facilities for scientific education are far greater on the continent than in England, and where such differences exist, England is sure to fall behind as regards those industries into which the scientific element enters. In fact, I have long entertained the opinion that, in virtue of the better education provided by continental nations, England must one

day, and that no distant one, find herself outstripped by those nations, both in the arts of peace and war. As sure as knowledge is power this must be the result.

Edward Huth, of Huddersfield, juror in 1862 and 1867, closely examined woollen fabrics in 1851, agrees with Dr. Playfair *in toto*:

'I am sorry to say that although we may still be unsurpassed in many of our productions, we no longer hold that pre-eminence which was accorded to us in the exhibition of 1851. Although an industry which has obtained a considerable style of perfection does naturally not advance in ten years as rapidly as the one which was at that period less fully developed, I fear that the enormous strides that have of late been made by our continental rivals in France, Belgium, Prussia, and Austria will render it daily more difficult for our woollen manufacturers to hold, not only their former prominent position, but even, in many cases, to maintain their present one. I found my (for a long time previously entertained) convictions entirely confirmed; that it is the want of industrial education in this country which prevents our manufacturers from making that progress which other nations are making. From all I could see and learn I found both masters and foremen of other countries much more scientifically educated than our own. This, however, is not all. The workmen of other countries have a far superior education than ours, many of whom have none whatever. Their productions show clearly that there is not a machine working a machine, but that brains sit at the loom and intelligence stands at the spinning-wheel. Seeing what has been done for other countries, and being convinced that a good general education is the secret of their rapid strides in art and manufacture, I am glad to say that the many eminent men in different stations of life, with whom I conversed in Paris on this subject, are all of the same opinion.'

Edward Frankland, professor of chemistry in the Royal School of Mines, agrees with Dr. Playfair:

'As a juror in class forty-four of the present Paris exhibition, I was not only forcibly struck by the want of evidence of progress in the different branches of chemical manufactures carried on in Great Britain, but still more so at the great advances made by other nations, but more especially by Germany, France, and Switzerland, in respect of such manufactures since the year 1862, when, as a juror in the corresponding class, I had also an opportunity of comparing the chemical manufactures of different nations. I quite agree with Dr. Playfair in referring this want of progress in the manufactures of this country chiefly to the almost utter lack of a good preparatory education for those destined to take part in industrial pursuits. This great defect in the school and college education of England affects the masters and managers of our factories even more deeply than the workmen themselves. The former have but rarely had any opportunities of making themselves acquainted with the fundamental laws and principles of physics and chemistry, they therefore find themselves engaged in pursuits for which their previous education has afforded them no preparation, and hence their inability to originate inventions and improvements. It is true that such men not infrequently imagine themselves inventors, and the yearly files of patent specifications abound with instances of their so-called inventions. The great loss of time and money attending these futile patents would be rendered impossible by a very moderate, if accurate, knowledge of chemical and physical science.

'In the polytechnic schools of Germany and Switzerland, the future manufacturer or manager is made familiar with those laws and applications of the great natural forces which must always form the basis of every intelligent and progressive industry. It seems that at length this superiority in previous training is more than counterbalancing the undoubted advantages which this country possesses in raw material.'

James E. McConnell, Esq. C. E.:

'I agree with Dr. Playfair in his views generally, and am satisfied as to the comparatively small progress we have shown since 1862, and the great advance which continental nations have made during that period. In the class of which I was juror for England, No. 63, I made a very careful examination and comparison of our locomotive engines, carriages, rail-

way machinery, apparatus, and material, as shown by this country, with the same articles exhibited by France, Germany, and Belgium. I am firmly convinced that our former superiority, either in material or workmanship, no longer exists. In fact there are engines shown there, made in France and Germany, equal to those of the best English makers. It requires no skill to predict that unless we adopt a system of technical education for our workmen in this country we shall soon not even hold our own in cheapness of cost as well as in excellence of quality of our mechanical productions. I found that on the continent there are now a number of workmen's schools established, in which a clever workman can qualify himself for any scientific position in his business.'

Captain Frederic Beaumont, royal engineers, agrees with Dr. Playfair: 'Speaking only with reference to machinery, the department with which I am immedately connected, there can be no doubt as to the immense strides which foreign mechanical engineering has lately made, notably, I think, in the case of France and Belgium, and by which they are successfully overtaking the industrial power of Great Britain. My impression is that this advance has been greatly owing to a successful copying of English designs and to the use of English machine tools. Of course, did the foreigners merely confine themselves to copying they would never surpass us; but while following that which in our mechanical designs is good, they are also seeking, and that not unsuccessfully, to apply theoretical knowledge in a way which, in my humble judgment, shows that they will soon have little to learn from us. I would allude notably to the economical use of steam, though no doubt their inventive faculties have been quickened by the high price of fuel on the continent.'

Warrington W. Smyth, Esq., M. A., F. R. S., lecturer on mining and mineralogy in the Royal School of Mines:

'As regards the broad question of technical education, I will only add that the greater proportional advancement made by France, Prussia, and Belgium, in mining, colliery working, and metallurgy appears to me to be due, not to the workmen, but in great part to the superior training and attention to the general knowledge of their subject observable among the managers and sub-officers of the works. No candid person can deny that they are far better educated, as a rule, than those who hold similar positions in Britain.'

Robert Mallet, Esq., F. R. S.:

'A university education, with a natural love for scientific investigations; the circumstances of my life, in large part engaged as the active managing partner of large engineering works, and of late years as a civil engineer; a more than common travel and knowledge of foreign countries, and their arts and educational systems, etc., have long convinced me that unless by a vast improvement in our own educational system, general and technical, the pre-eminence of England (whose power more than that of any other empire that ever existed is based upon her industry) must decline, and with a rapidly accelerating force in relation to the other great nations of the world.'

J. Scott Russell, Esq., F. R. S.:

'As a juror in the Paris exhibition I have come to the conclusion that the higher class of education given in each of those countries to the workmen in its skilled trades, as well as the superior professional education given to the higher classes of men employed in technical professions, is everywhere visible in the works exhibited by those countries; and I attribute the surprising strides those countries have been making the last ten years in many of the great staple branches of mechanical construction and manufacture, to the admirably scientific and practical training which the Governments of those countries provide for their working classes.'

A. J. Mundella, managing partner in a hosiery firm employing five thousand operatives:

'As the result of my observation I have for four or five years past been unceasingly alarmed for our industrial supremacy, and my experience of the Paris exhibition has only confirmed and strengthened my fears. In my own branch we still maintain the lead in a majority of articles, but

the progress made by France and Germany since 1862 is truly astonishing, and it has been much greater than our own. While I believe the English workman is possessed of greater natural capacity than any of his foreign competitors, I am of opinion that he is gradually losing the race through the superior intelligence which foreign Governments are carefully developing in their artisans.'

James Young, Esq., (chemical works:)

'My experience accords with Dr. Playfair's. So formidable did the rate of progress of other nations appear to us that several meetings of jurors, exhibitors, and others took place at the Louvre Hotel on the subject. The universal impression at these meetings was that the rate of progress of foreign nations in the larger number of our staple industries was much greater than our own. The reason for this increased rate of progress is the excellent system of technical education given to the masters of workshops, sub-managers, foremen, and even workmen.'

The reports of special commissioners on various departments fill six volumes of parliamentary documents, and are full of like testimony.

Mr. Russell, on his report on steam-engines, says:

'Intelligence, education, and training beyond the ordinary level of skill and knowledge will be required both in the construction and the use of these high-speed engines; but so it is with most modern improved machinery.' * * * 'It is thus that in all departments of French engineering education and science are everywhere visible; and if it be required of me to account for the greater rapidity of progress of the French in matters of engineering during the last ten years, I can see no other reason for it than their superior organization for technical education, as part of which they have as much as possible of practical knowledge communicated to them in addition to their scientific attainments. I do not think our nation inferior to theirs in technical ability, personal energy, or in the skillful use of our hands; it is only in the want of organized education that I can indicate any cause of our inferiority or any remedy for it.'

Rev. J. O. Murray, reporter on cotton goods, says in conclusion:

'Few practical and reflective observers will glance as hurriedly as even we have done round these competitive displays of industrial ability in cotton manufacture without feeling that, however long or largely England may retain the leadership, anything like our exclusive empire or undisputed sway in the cotton trade is no longer possible. The superior education of continental workmen in certain branches, or the better position of foreign merchants in regard to certain articles, reduces us to a secondary position in some respects. If in all countries as excellent a system of public education and as independent a spirit prevailed as in Switzerland, our position would soon be menaced in many more directions. While we are hovering round the question of national education, and hesitating over the petty interests of parties in regard to it, the industrial scepter is imperceptibly slipping away from us.'

MEMORANDUM INCLOSED IN MR. SCOTT RUSSELL'S LETTER.

'The fourth great international exhibition has afforded an excellent opportunity for marking the relative progress of different countries in the arts, manufactures, and trades which contribute to the wealth and power of nations. We have especially noted the progress of other nations in those mechanical and constructive arts and trades in which, in 1851, England exhibited pre-eminent excellence. We have to record that in many of these some other nations appear to have made much more rapid progress than ourselves, so that we are relatively falling off, and we especially note that our falling off is not in unimportant departments, but in some of those which had formerly constituted our staple excellence. We have to specify that those branches in which other countries have now shown more rapid advancement are some of our own great manufactures of steel and iron, steam machinery, locomotive engines and tools, and manufacturing machinery in general. We do not say that all of these other nations have excelled us; in some they have not yet equaled us. But what we do feel, and therefore frankly state, is, that their prog-

ress has in the last sixteen years since the first exhibition of 1851 been remarkably greater than ours.

Dissatisfied with our national progress, we have naturally turned our minds to search for the cause of this progress of other nations, and for the cure of our own deficiency. We find that during these years some nations have been occupied in diligently promoting the national education of the various classes of skilled mechanical workmen for the purpose of giving skill to the unskilled, and rendering the skilled more skillful. We find that some nations have gone so far as to have established in every considerable town technical schools for the purpose of teaching to the youth to be craftsmen those branches of science which relate most nearly to the principles of their future craft.

'Workers in metal are taught the nature of the mechanical powers with which they will have to work and the mechanical properties of the materials they will have to operate upon; engine builders are taught the principles of heat and steam and the nature of the engines they will have to make and work; ship builders are taught the laws of construction, hydraulics and hydrostatics; and dyers and painters are taught the laws of chemistry and color. All skilled youth are taught geometry, drawing, and calculation; and in many countries every youth who shows great talent in any department is promoted to a higher training school, and there educated at the public cost. Besides these local schools other countries have technical colleges of a very high class for the education of masters and foremen in engineering, mechanics, merchandise, and other practical and technical professions.

'We have not failed to notice that it is precisely those nations which have been systematically giving a course of preparatory training and education to their population in their skilled trades that have shown the most marked progress in national industry in these successive exhibitions. Prussia, Switzerland, Belgium, France, and America seem to make progress in proportion to their excellence of educational training. Prussia in steel, iron, and general engineering work. Switzerland in scientific engineering, machinery, and watch and telegraph work, and in textile manufactures. Belgium in metal working and mechanical trades. France in metal work and in steam-engines, engineering structure, naval architecture, and steam navigation. All these nations seem to exhibit growing skill and progress in proportion to the excellence of the education they give to their manufacturing population.

These testimonials arrested instantly the attention of the English public, and soon after there was held in England a great meeting on this subject.

Following this meeting of the statesmen and practical men of Great Britain was an investigation by Parliament, the result of which is embodied in one of the most important public documents of modern times.

The following is an extract from the report of the commission:

'The industrial system of the present age is based on the substitution of mechanical for animal power; its development is due in this country to its stores of coal and of metallic ores, to our geographical position and temperate climate, and to the unrivaled energy of our population.

'At the same time nearly every witness speaks of the extraordinarily rapid progress of continental nations in manufactures, and attributes that rapidity, not to the model workshops which are met with in some foreign countries, and are but an indifferent substitute for our own great factories and for those which are rising up in every part of the continent, but, besides other causes to the scientific training of the proprietors and managers in France, Switzerland, Belgium, and Germany, and to the elementary instruction which is universal among the working population of Germany and Switzerland.

'There can be no doubt, from the evidence of Mr. Mundella, of Prof. Fleeming Jenkin, Mr. Kitson, and others, and from the numerous reports of competent observers, that the facilities for acquiring a knowledge of theoretical and applied science, are incomparably greater on the continent than in this country, and that such knowledge is based on an advanced state of secondary education. All the witnesses concur in desiring similar

advantages of education for this country, and are satisfied that nothing more is required, and that nothing less will suffice, in order that we may retain the position which we now hold in the van of all industrial nations. All are of opinion that it is of incalculable importance economically that our manufacturers and managers should be thoroughly instructed in the principles of their arts.

'They are convinced that a knowledge of the principles of science on the part of those who occupy the higher industrial ranks, and the possession of elementary instruction by those who hold subordinate positions, would tend to promote industrial progress by stimulating improvement, preventing costly and unphilosophical attempts at impossible inventions, diminishing waste, and obviating, in a great measure, ignorant opposition to salutary changes.'

Sir Edward Sullivan, in a late able work on protection to native industry, page 8, gives this testimony:

'The commerce of the world has been incalculably extended during the last twenty years. All nations have advanced. England has advanced among the number; but to say she has outstripped them is untrue. Compared with the position she occupied twenty years ago, she has advanced least of all; she has lost the immense lead she then possessed in almost every industrial enterprise.

'When we look back twenty years, and examine the position England then occupied in nearly all manufacturing industries; the exclusive advantages of capital, of energy, of manufacturing, and technical knowledge she then possessed, and compare her position now, we shall see at once that many nations have advanced as rapidly again as she has. They were all hull down in the manufacturing race twenty years ago. They have steadily overhauled us. Some are close under our sterns; some are along-side; and some are already showing us their sterns.'

Thus, by the confession of the first manufacturing nation of the world, is popular education necessary if she would maintain her rank in the generous emulation of the industries of mankind. England yields to the demand of her manufacturing interest that education to her people which a sense of justice and respect for the dignity of manhood have never caused her to provide. Let not America incur the disgrace of lagging behind all civilized nations in that popular education of which she set the first example.

Compared with the magnitude of this question, all matters of tariff, of finance, or currency are trifles. National poverty and national wealth are of little account compared with national ignorance and national education; rather let me say, with ignorance there can be no wealth, with education there can be no poverty."

From the above testimony it is clearly apparent that one of the most, if not the most, important factor in production is the trained human intellect. Not even natural advantages of soil, climate, or mineral deposits can compete with it. If this industrial supremacy, which scientific training gives to men, has been less apparent in the past, it is because the strictly professional courses—law, medicine, theology—have been exalted, and the industrial too largely ignored.

From a paper in Frank Leslie's by Superintendent Bradley, of the Minneapolis Public Schools, we quote the following, showing the effect of manual training upon school attendance:

Manual training should be introduced into the public schools in order to improve and invigorate their work. Many of the current criticisms of the public schools are unreasonable and absurd; not unfrequently they are based upon evils and methods of work which have long since passed away. Still the limitations and failures of the schools are sadly apparent. One-

half of the pupils remain in attendance less than three years. Not one in ten completes the very limited course of the grammar school. Why do these children of tender age desert the school? A few of them go to work; other causes thin the ranks to some extent. But there is no good reason in nature why the number of pupils eleven years of age should be only one third of the number seven years of age. All will agree that the first fourteen years, at least, of every child should be sacred to education. The cases are comparatively rare in which any real necessity requires a child to go to work under fourteen. But in every city, unless a truancy law is enforced, multitudes of children of school age will be found in the streets. Many of them have attended school with more or less regularity for a year or two. The schools do not attract them; their parents have not sufficient interest to send them. Most of them belong to the element from which our "dangerous classes" are recruited. It is of vital importance to the state that they should be educated.

To a very large extent these children will be attracted and retained in the schools by such modifications of the work as will be effected by introducing manual training. During the three years since it was introduced into the public schools of Minneapolis the enrollment has increased fifty per cent. The upper grades have filled up; the high school have doubled their numbers. The work-shops have been the most attractive places in the schools. Boys who before wished to leave school have changed their mind and become interested. The work has steadily grown in popularity as it has advanced. Boys have wished to work extra hours. Other cities have had similar experience. We may consider it already established that manual training will attract into the schools pupils who do not now attend.

From the report of Superintendent Bradley, for 1888-89, we quote the following:

DRAWING AND MANUAL TRAINING EXHIBIT.

One of the most noteworthy and profitable events of the year was the exhibition of drawings and other varieties of handwork of the pupils at the Central High School on the 27th and 28th of May. Like the similar occasion of the previous year, the purpose was, principally, educational. Multitudes of pupils came to see how their own drawings compared with those from other schools. They criticised one another's work and gained new ideas and new interest from the comparison. Parents made similar comparisons and went away with their interest in the school increased. Teachers found new encouragement and incentives to more earnest and discriminating work. The sentiment of all who visited the exhibit appeared to be one of pride in our public schools and satisfaction at the progress that had been made during the year. One of the city papers, referring editorially to the exhibit, said: "The most suggestive and perhaps the most important display ever made in this city was that shown this week at the Central High School building. Many thousands of parents and pupils have passed it in review. Few realize its full significance even of those who admired its special features. Only those who know what education has been, what it is and what it should be, could fitly appreciate the hundreds of products, each having a definite relation to the happiness, the character and success of its maker. It would astonish those who went to school twenty-five years ago to see what our boys and girls can do." The following condensed extracts are quoted from the descriptions of the exhibits in the daily papers: "Entering the High School hall, we note first a model collection in clay where children's fingers have moulded hundreds of objects from nature into forms very like art. Geometric forms, birds, insects, animals, and fruit are well represented. To the right, extending down the entire room, are pictorial and industrial exhibits. Beginning with the simplest elements the children make conventional designs, first in outline, then in a color on a natural background, then with two colors and greater complexity, yet with harmony in combination. Whole panels are devoted to the work of the children in laying straight sticks to make geometric figures and in combinations which give

outlines of beautiful and fantastic shapes. Along with the use of colors, teaching of the harmony of colors is given and some of the work is shown. Then comes some practice in the application of drawing. Attention is given to oil cloth, print and carpet patterns. When a child has drawn an outline or picture, he proceeds to produce the object out of wood or other materials. Then more advanced work in drawing is displayed. Handsomely finished specimens of drawings in full shade are contributed by pupils from the Central and Branch High Schools. A few water colors showing training in the direction of real art are displayed."

"The work of the Teachers' Training Class is full of life and vigor. They are rapid crayon sketches, such as the young ladies will have occasion to make frequently when they become teachers themselves. There are ocean scenes with ships in full sail; there are trees, animals, landscapes, etc. A picture is drawn off-hand of a mill, or a dog, or a deer, with simple, natural surroundings, and used in language-exercises or other teaching. The teacher does not have to pull forth words as with a corkscrew. She needs only to guide the exuberant gushing forth of words, suggesting full sentences and earnest expressions. Some of these pictures, which are really artistic, were done by young ladies who were unable to draw as well as many of the pupils in the lower grades a year ago."

"The sewing exhibits attracted much attention. The teachers take hold of the work splendidly, and the children are delighted with it. They would like to have it come every day in the week. They are first taught the various kinds of stitches, and then make a work-bag in which they keep their supplies. Many varieties of plain sewing were exhibited, and considering the short time since the introduction of sewing, many pieces have been made."

"The work in penmanship was well displayed along one side of the hall. Many hundred specimens of the work of every grade were exhibited. The little beginners sent their slates with their first crude attempts at writing, and the upper grades sent beautiful specimens of hand-writing in various business forms. Between these it was interesting to trace the improvement from class to class."

"In the work-shop on the basement floor about 2,000 pieces of work turned out by the boys of the manual training department are exhibited. They are samples from all the schools where this work is done—the Central and Branch High Schools. Some of the pieces of work done by the more advanced boys are as fine as is to be found in a cabinet shop. Three new features have been added during the year—wood carving, polishing, and turning. All the work of the manual training is mathematically exact."

This large exhibit—exceeding in size many of the state collections—was simply a selection from the vast annual production of this department of our schools. It illustrates the value of system and careful organization. Beyond question the other work of the schools has been promoted rather than retarded by the progress in this department. Excellent results have been obtained by the use of the models in drawing and working in clay. A significant fact, bearing upon the general problem of hand training, is that pupils who are dull in their other school work are often bright and quick in the use of models. We have thus a means of access to certain minds, apparently irresponsive, by which they may be aroused to activity. When their interest has thus been once awakened, it may readily be transferred to other subjects of study.

One result of the teaching of drawing in the public schools during the past ten or fifteen years ought to be that teachers should become accustomed to use the crayon in all their instruction. For this purpose good drawing is, of course, desirable; but it is not indispensable, and the habit of supplementing oral instruction by graphic illustration, however rude and hasty, is of great value to the teacher. Even if it were true, as it is not, that no additional information were thus imparted, constant use of the black-board would nevertheless be a valuable means of holding attention and deepening impressions.

Prof. W. F. Decker, Supervisor of Manual Training, Minneapolis, says:

Few books have yet been published that are of much aid to manual training instructors, and it is common for teachers to design their own exercises, illustrating from the blackboard, large drawings or blue prints. In this city we use lesson sheets designed by myself, in all the schools. Each of the sheets contains a working drawing of the product and additional sketches to illustrate principal operations as well as printed directions for proceeding with the work.

Sheets are placed in the hands of each pupil at the bench, but additional instruction is given to assembled classes at the beginning of each exercise when the instructor also shows how to properly use the tools. These lesson sheets are found to be almost indispensable as a means of systemizing the work and insuring thorough training in the fundamental operations. Our lessons begin with marking and sawing rough boards and embrace all the principal steps of wood working up to the construction of such useful articles as chests of drawers and ornamental cabinets.

Much attention is given to such operations as driving nails, planing to dimensions, boring, mortising, paring, etc. No construction is allowed that does not involve operations already learned. After completing the course laid down in the lesson sheets, the pupils take up wood carving and turning under a special instructor.

Drawing is taught in connection with our course in manual training, and boys who complete the course are able to make accurate working drawings of almost any ordinary structure.

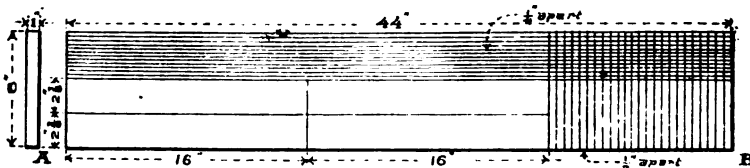
Through the kindness of Prof. Decker we are enabled to print, from the original plates, the series of exercises used in teaching wood-working, particularly carpentry and joinery. It will be seen that they proceed from simple exercises to those that are more complex, and consist of a working drawing with all the lines and dimensions carefully given, together with general directions for laying out and executing the work, and practical cautions and suggestions.

LESSONS IN WOOD WORKING, DESIGNED FOR USE IN HIGH SCHOOLS
BY W. F. DECKER, SUPERVISOR OF MANUAL TRAINING; MIN-
NEAPOLIS PUBLIC SCHOOLS.

EXERCISE I.

Marking and Sawing to Line.

STOCK—Rough pine board of dimensions shown below.



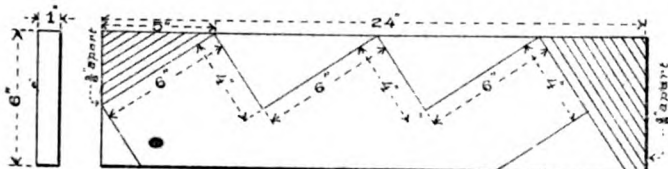
GENERAL DIRECTIONS—Lay out the four large pieces, using steel square and pencil and working from the best edge, A B.—Mark the remainder of the board as indicated, using straight edge for long lines.—Saw to the lines cutting narrow strips first, and afterward the large pieces.—Save large pieces for future use.

Instructors should point out the difference between cross-cut and rip-saws, and show how to use each.—There is an advantage in taking long strokes.—Take care not to split off corners at the ends of the cuts.

EXERCISE II.

Marking and Sawing Diagonally Across the Grain.

STOCK—Rough pine board of the dimensions shown below.



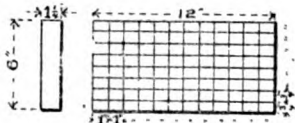
GENERAL DIRECTIONS—Beginning 5 inches from one end on the best edge of the board, apply the steel square so that points 4 inches and 6 inches from the corner, respectively, shall be on the edge. Mark and apply again in the same way.—Square to these lines as indicated, and finally mark the narrow strips.—Saw to lines, cutting narrow strips first.

The sawing will be more difficult than in the first exercise, and greater care will be necessary to avoid splitting off corners.—Run the saw nearly perpendicular at the ends of the cuts on the inside angles to avoid leaving marks on the finished piece.

EXERCISE III.

Use of Try-Square and Rule, and Driving Nails.

STOCK—Piece of rough pine plank of dimensions shown below.



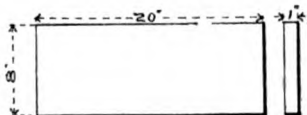
GENERAL DIRECTIONS—Use try-square from best edge and mark with pencil across the piece as indicated.—Measure with rule and mark points three-fourths inch apart on end lines.—Connect these points by means of straight edge or square.—Mark other side to correspond, working from the same edge.—Start nails at intersections of lines on one side and drive so that they will come out at opposite points. Drive so that the ends of nails will be even with back surface of the board.

Instructors should show how to start the nails and how to drive straight through. Show also how to draw nails without bending them. A piece of rough board should be placed underneath to avoid marring the bench.

EXERCISE IV.

Use of Fore-plane, Jointer, and Smoother.

STOCK—Rough pine board of dimensions shown below.



GENERAL DIRECTIONS—Place the board flat on the bench with one end against the bench stop.—Commence to plane near one edge and advance

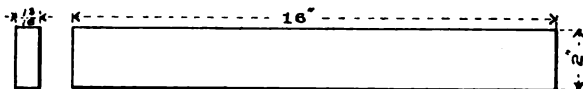
gradually toward the other, taking long, careful strokes.—Test the work by the edge of the plane or the try-square. It should be straight in all directions.—Use jointer and smoother after the rough surface has been removed.—The jointer and smoother should be set for very light cuts.—After smoothing and straightening both sides, rip-saw the board through the middle and joint edges so that no light can be seen through the joint when edges are placed together.

As the object of this exercise is to teach how to produce plane surfaces and straight edges only, no attention need be paid to dimensions of finished pieces.

EXERCISE V.

Use of Gauge and Try-square, and Planing to Given Dimensions.

STOCK—Pieces of rough pine board sawed out during the first exercises.



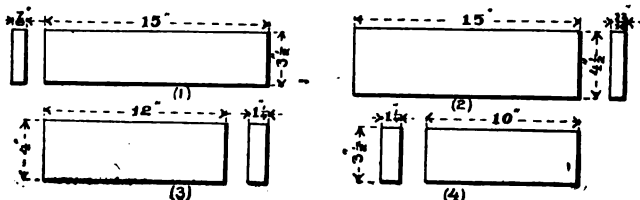
GENERAL DIRECTIONS—Plane one flat side as taught in exercise four. This will be the “worked side.”—Plane one edge square with worked side, using try-square. This will be the “worked edge.” Take one or two shavings off the remaining rough side and gauge both sides from worked edge for width.—Plane to gauge marks. Gauge both edges from worked side for thickness and plane to gauge marks.

Instructors should show how the gauge is used in making fine lines.—The worked side and edge should generally be marked and are often called the “marked sides.”

EXERCISE VI.

Planing to Given Dimensions, Stock for Future Exercises.

STOCK—Rough pieces of pine one-half inch longer, one-quarter inch wider, and about one-eighth inch thicker than finished pieces shown in cut.



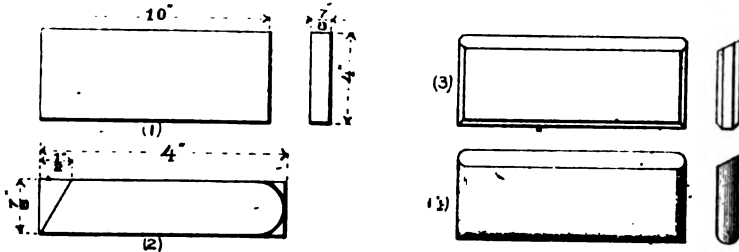
GENERAL DIRECTIONS—Plane each piece to the dimensions shown, following the instructions given in the last lesson.—The finished pieces should be laid away carefully for future use.

This exercise is similar to number five and gives additional practice in very important operations. The pieces should be “dressed” very carefully as future work will depend, in a large degree, on the accuracy of these pieces.

EXERCISE VII.

Block Planing, Beveling, and Rounding.

STOCK—Piece of pine planed to dimensions shown in (1) but sawed $\frac{1}{2}$ of an inch longer



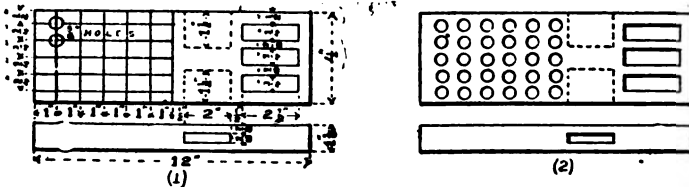
GENERAL DIRECTIONS—Block plane the two ends square with marked sides and to the length shown in (1.)—Strike a half circle at each end as indicated in (2.)—Set bevel at 45° and plane off corners so as to touch half circles, testing with bevel.—Bevel the ends in same way and afterward bevel remaining edge as indicated.—It will then appear as in (3.)—Round one edge and two ends by planing off angles to touch half circles until no visible angles remain.—(4) shows finished piece.

Instructors should explain the use of T bevel and show how to set it at any desired angle.

EXERCISE VIII.

Marking with Knife Point, Boring and Mortising.

STOCK—Piece (3) of exercise six reduced to $1\frac{1}{2}$ inch in thickness.



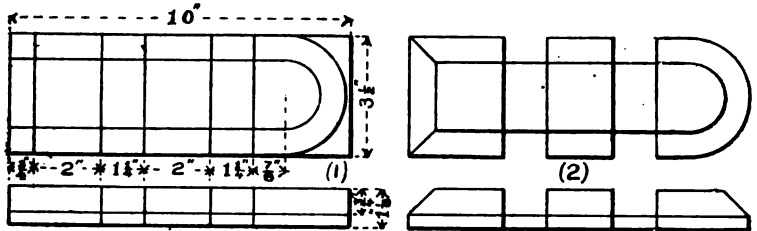
GENERAL DIRECTIONS—Mark by means of sharp knife point, try-square, and gauge, as indicated in (1;) both sides alike.—Start $\frac{1}{2}$ -inch bit at intersections on one side and bore so as to strike opposite points.—As soon as point comes through, start bit from opposite side and clean out hole.—Bore three $\frac{1}{2}$ -inch holes close together for each large mortise, and four $\frac{1}{2}$ -inch holes $1\frac{1}{2}$ inches deep for small mortises.—Cut mortises with chisels of full width, working from middle toward ends.

The proper method of handling the bits and chisels needs to be carefully shown by instructor.

EXERCISE IX.

Paring.

STOCK—Piece (4) of exercise six reduced to $1\frac{1}{4}$ inch in thickness.



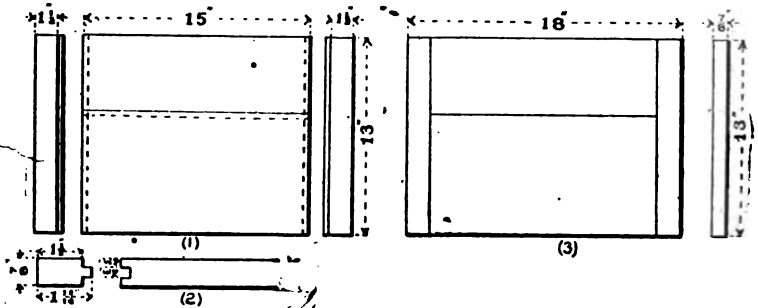
GENERAL DIRECTIONS—Mark by means of compasses, gauge, knife point, and try-square as indicated in (1).—Cut half round end first using 1-inch chisel.—Continue the gauge mark around this finished end.—Bevel edges and ends as indicated in (2,) using wide chisel only:—Finally cut “gains,” using back-saw and $\frac{1}{4}$ -inch chisel.—The rounded end must be entirely finished before beveling.

The method of handling chisel should be carefully shown and necessity of having sharp tools pointed out.

EXERCISE X.

Making Small Drawing Board.

STOCK—Pine board 1 inch thick.



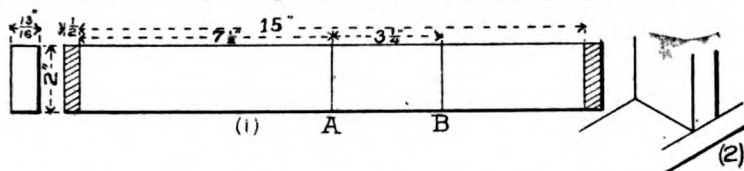
GENERAL DIRECTIONS—Take two pieces of boards 8 inches and 6 inches in width, respectively, and about 16 inches long.—After taking off the rough and jointing the edge of each, tongue and groove them, using the match planes.—Glue them together, and, the following day, dress to dimensions shown in (1).—Get out cleats for the ends and tongue and groove as shown in (2).—Fasten cleats with $2\frac{1}{4}$ inch finishing nails.—(3) shows finished board.

This is the first exercise in *joinery*.—The use of match planes and glue should be carefully taught.

EXERCISE XI.

Making Square Butt Joint.

STOCK—One of the pieces planed to dimensions in exercise five.



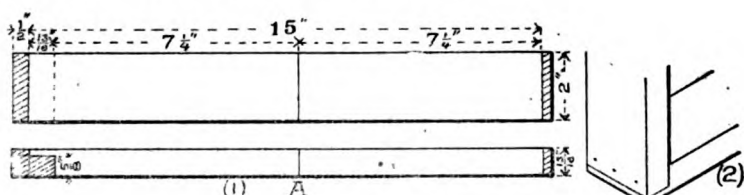
GENERAL DIRECTIONS—Mark piece by means of knife point and try-square as shown in (1).—Saw and block plane both ends square with marked sides.—Separate at A, using back-saw, and block plane ends.—Place one end of the left hand piece so that an edge shall correspond to the line B, as shown in (2).—Fasten with three 2 1/4-inch finishing nails.

Great care is necessary to avoid splitting off corners in block planing, and in getting ends square.—When pieces are fastened together, all angles should be right angles.

EXERCISE XII.

Making Ledge Joint.

STOCK—One of the pieces of exercise five.



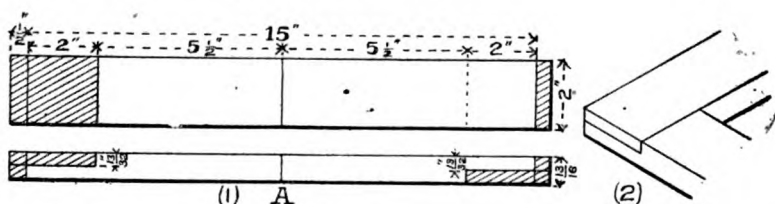
GENERAL DIRECTIONS—Mark piece by means of knife point and try-square as shown in (1).—Cut "ledge" at the left hand end using back-saw and 1/4-inch chisel.—Saw and block plane ends. Separate at A, block plane and join as shown in (2), using three 2-inch finishing nails.

Great care must be taken in cutting ledge to get the bottom perfectly smooth and straight, and the inside corner a right angle.

EXERCISE XIII.

Making Halved Joint.

STOCK—One of the pieces of exercise five.



GENERAL DIRECTIONS—Mark piece as shown in (1), using try-square, knife point, and guage.—Cut ends in the same way and with the same care as in exercise twelve.—Saw and block plane ends.—Show the work to

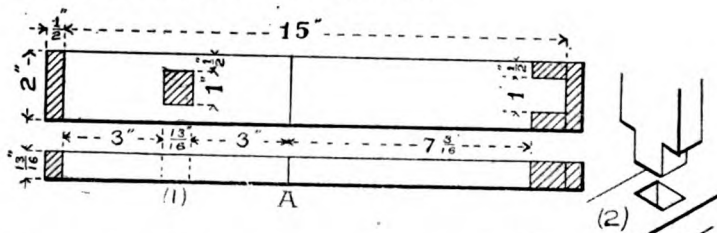
instructor, and, if approved, separate at A and block plane ends.—Join as shown in (2,) fastening with glue.

The try-square and gauge should always be used from the marked sides.—Great care should be taken to cut to the lines with sharp chisels.—These suggestions apply equally well to all the following exercises.

EXERCISE XIV.

Making Mortise and Tenon Joint.

STOCK—One of the pieces of exercise five.



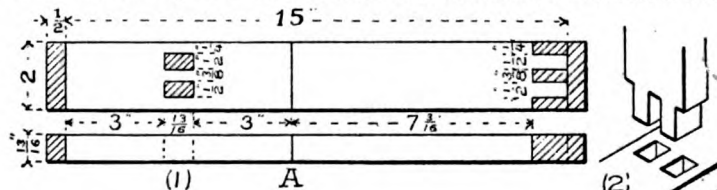
GENERAL DIRECTIONS—Mark by means of try-square, knife point, and gauge as shown in (1.)—Cut mortise and tenon.—Saw and block plane ends.—Show work to instructor, and, if approved, separate at A and block plane ends.—Join as shown in (2,) fastening with glue.

If the suggestions given in the last lesson are followed, a good joint will be formed without subsequent fitting.—“Cutting and trying” should not be allowed.—If cuts are not properly made pupils should do the work over again.

EXERCISE XV.

Making Double Mortise and Tenon Joint.

STOCK—Piece of pine dressed to same dimensions as in exercise five.



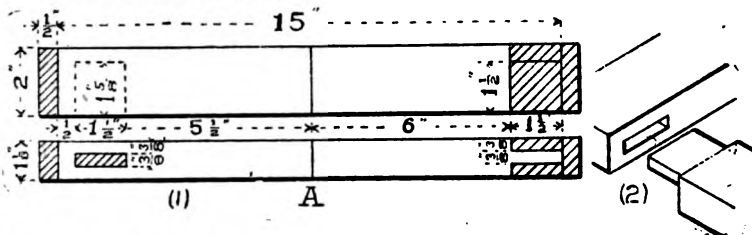
GENERAL DIRECTIONS—Mark by means of try-square, knife point, and gauge as shown in (1.)—Cut mortises and tenons.—Saw and block plane ends.—Show work to instructor, and, if approved, separate at A and block plane ends.—Join as shown in (2,) fastening with glue.

This joint is but little used.—It requires more skill in cutting than the single mortise and tenon joint, as both pairs must fit at the same time.

EXERCISE XVI.

Making Blind Mortise and Tenon Joint.

STOCK—Piece of pine dressed to the outside dimensions shown below.



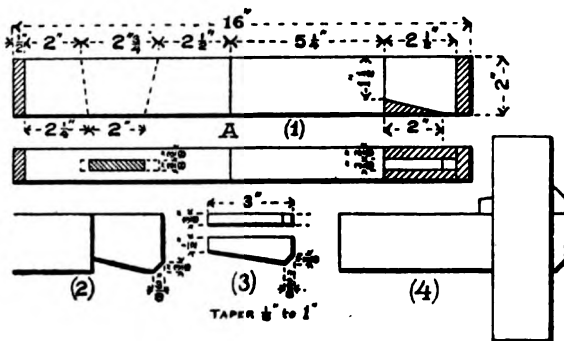
GENERAL DIRECTIONS—Mark by means of try-square, knife point, and gauge as shown in (1.)—Cut mortise and tenon.—Saw and block plane ends.—If work is approved, separate at A and block plane ends.—Join as shown in (2,) fastening with glue.

This is a very useful joint and requires careful work in cutting, especially in making the "shoulders," the only parts that show when the piece is finished.

EXERCISE XVII.

Making Dovetail Tenon Joint.

STOCK—Piece of pine dressed to the outside dimensions shown in (1.) The thickness should be $1\frac{1}{4}$ inches.



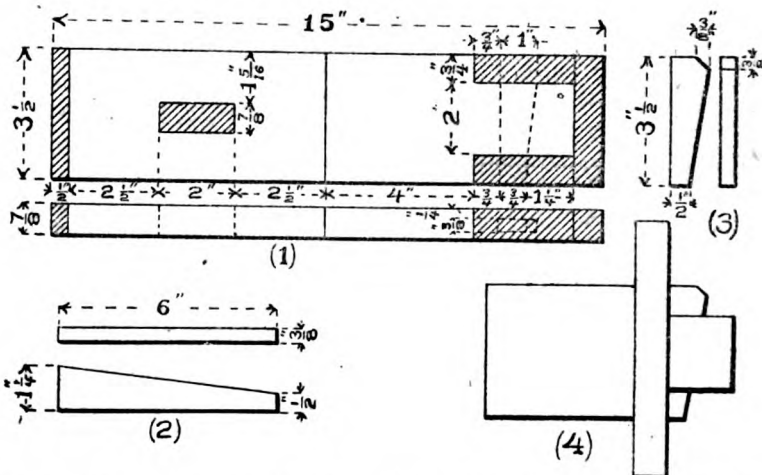
GENERAL DIRECTIONS—Mark as shown in (1,) using the same tools as in the last three exercises.—Cut mortise and tenon.—Finish tenon as shown in (2.)—Make key as shown in (3.)—If work is approved, separate at A, block plain ends and join as shown in (4.)

The mortise and tenon should be very carefully cut, in order to make good joints at the sides of tenon and key. This makes a very strong joint to resist tension.

EXERCISE XVIII.

Making Keyed Tenon Joint.

Stock—Piece (1) of exercise six.



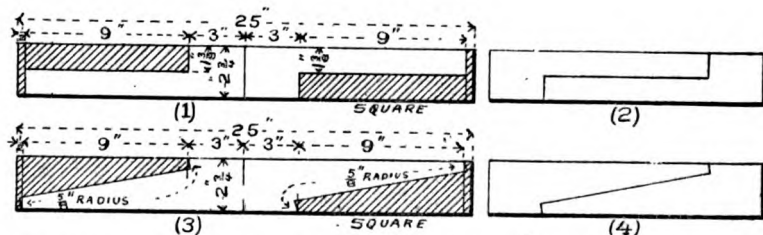
GENERAL DIRECTIONS—Mark as shown in (1.)—Cut tenon and mortises.—Make oak key as shown in (2.)—If work is approved, separate and block plane ends, join pieces and drive key.—Mark ends of key in line with edges of piece as indicated in (4.)—Back out key, finish as shown in (3.) and drive again.

The width of large mortise should be the same as thickness of piece, whatever that may be.—This is a very useful joint when the parts are liable to shrink.

EXERCISE XIX.

Making Scarf Joints.

Stock—Pieces sawed from three-inch pine plank and reduced to outside dimensions shown in (1.)

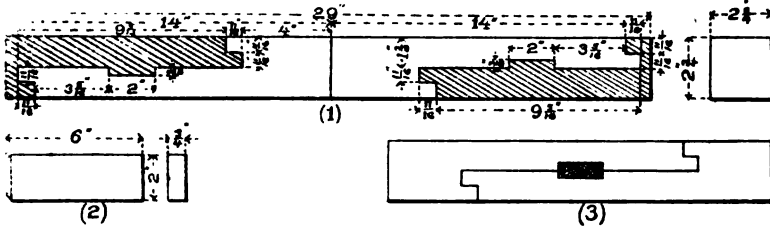


GENERAL DIRECTIONS—Mark pieces as shown in (1) and (3), opposite sides alike.—In marking (3) describes arcs of circles where the radii are indicated and connect by the edge of steel square.—Square to this line through the points used as centers, for the ends of scarf.—Cut to lines, using back-saw, rip-saw, and 1-inch chisel.—If work is approved, separate and block plane ends and finally join as shown in (2) and (4.)—Fasten temporarily by means of four wood screws.—Instructors may decide whether pupils shall make one or both pieces.

EXERCISE XX.

Making Scarf Joint with Key.

Stock—Saw pieces from 3 inch pine plank and reduce to outside dimensions given in (1.)



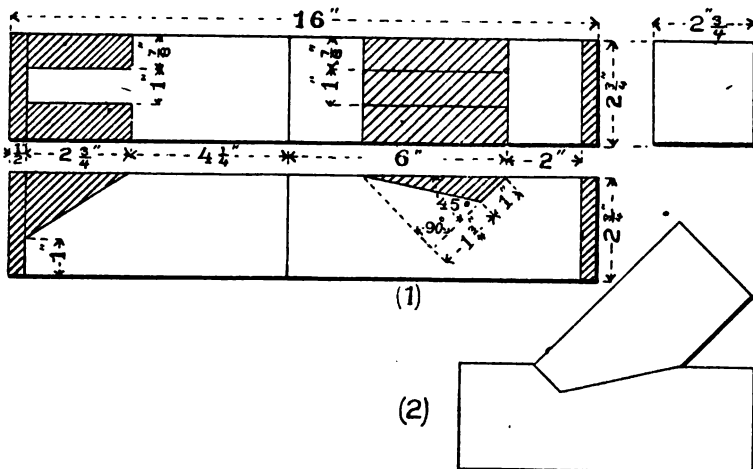
GENERAL DIRECTIONS—Mark for scarfing as shown in (1) and cut to lines.—Make oak key as shown in (2).—If work is approved, separate and block plane ends, drive key and trim ends flush with sides of piece.

Instructors will explain the use of this kind of joint, point out the necessity of marking with great care and show the proper method of cutting.—Any false cuts will not only disfigure the work, but will greatly weaken the joint.

EXERCISE XXI.

Making Truss Joint.

Stock—Saw piece from three-inch pine plank and reduce to outside dimensions shown in (1.)



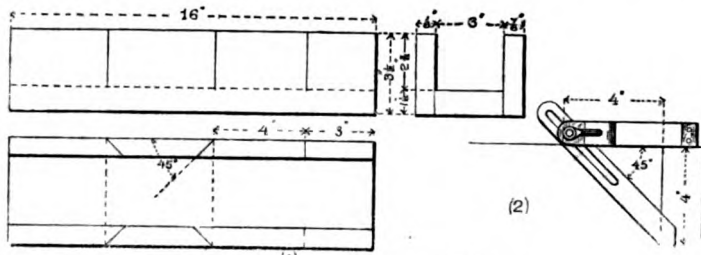
GENERAL DIRECTIONS—Mark as shown in (1).—Cut to lines by means of back-saw, rip-saw, and 1-inch chisel.—If work is approved, separate and block plane ends and join as shown in (2.)

The pieces may be fastened by means of glue, though in an actual truss of large size a bolt would be passed through both pieces with washers at the ends.

EXERCISE XXII.

Making Miter Box.

STOCK—Two pieces of pine 17 inches long, dressed to dimensions shown below, for side pieces; and one piece of same length, dressed to 3x11 inches, for bottom.



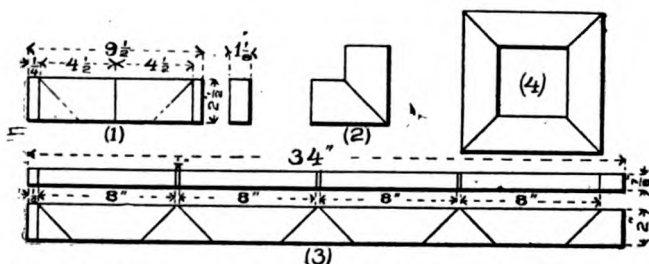
GENERAL DIRECTIONS—Join as shown in (1,) using three wood screws for each side. Mark as shown in (1) for square and miter cuts, using sharp knife point, try-square, and T-bevel. The T-bevel should be set as shown in (2.)—Saw to lines, using backs-saw.

It is very important that the miter box be absolutely correct, as it will be brought into use in subsequent lessons.

EXERCISE XXIII.

Making Miter Joint and Miter Frame.

STOCK—Pieces of pine dressed to outside dimensions shown in (1) and (3.)

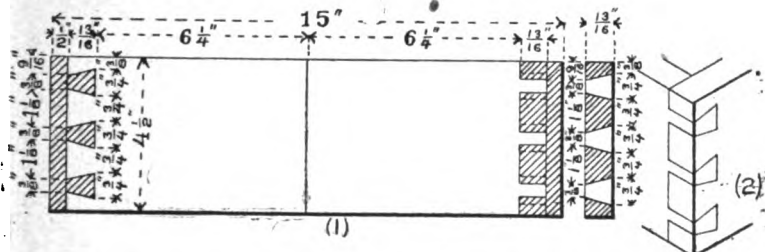


GENERAL DIRECTIONS—Mark piece as shown in (1.)—Saw in miter box and join as shown in (2.) If square, fasten with glue. This will test the miter box preparatory to making frame.—If miter box is correct, mark and saw other piece as indicated in (3.) Smooth ends with block plane and join as shown in (4,) fastening with glue.—The piece should be exactly 8 inches square when finished.

EXERCISE XXIV.

Making Common Dovetail Joint.

STOCK—Piece (2) of exercise six.



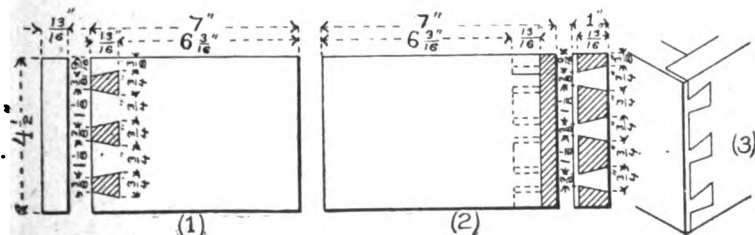
GENERAL DIRECTIONS—Mark as shown in (1,) using sharp knife point, rule, try-square, and T-bevel.—Cut out the parts shown shaded in the drawing, using back-saw and narrow chisel.—If work is approved, separate at center line, block plane ends and join as shown in (2,) fastening with glue.

This is a difficult exercise, and unless the greatest care is taken, both in marking and cutting, the joint will be unsatisfactory.

EXERCISE XXV.

Making Drawer Dovetail Joint.

STOCK—Two pieces of pine dressed to outside dimensions shown in (1) and (2.)



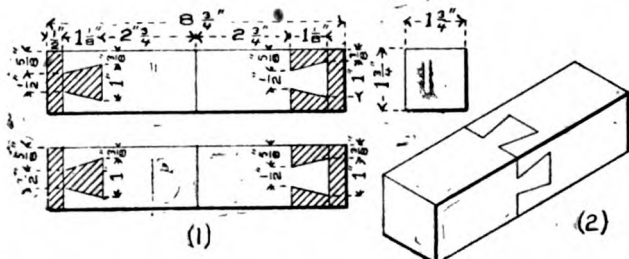
GENERAL DIRECTIONS—Mark as shown in (1) and (2,) using gauge and tools used in exercise twenty-two.—Cut out shaded portions, and, if work is approved, join as shown in (3,) fastening with glue.

The dimensions of dovetails are the same as in exercise twenty-two.—When the pieces are joined some of the joints are covered, and this makes it more suitable for drawer fronts and similar purposes.

EXERCISE XXVI.

Making Secret Dovetail Joint.

STOCK—Piece of pine dressed to outside dimensions shown in (1.)

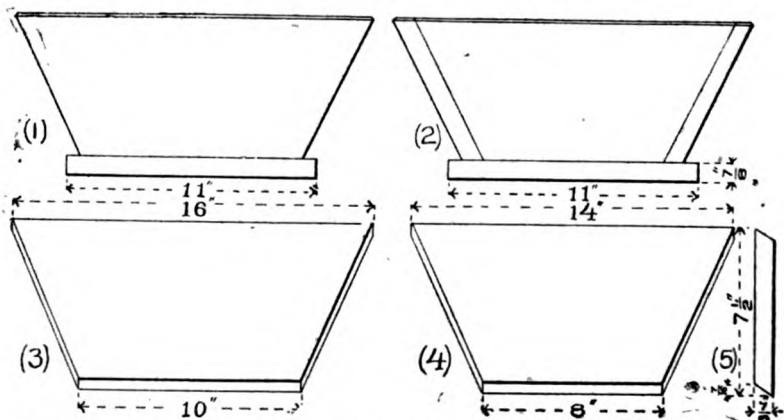


GENERAL DIRECTIONS—Mark as shown in (1.) using sharp knife point, rule, and try-square. All four sides of the stock must be alike, and all measurements must be taken from the "marked sides."—Saw and block plane ends and connect corresponding points across the ends by fine parallel lines, making the angle of 45° with edges of piece.—Cut to the lines, and, if the work is approved, separate at center line and join as shown in (2.)

EXERCISE XXVII.

Making Feed Box.

STOCK—One pine board 8 inches wide, and 5 feet 2 inches long, for sides; and one 6 inches wide and 2 feet long, for bottom.

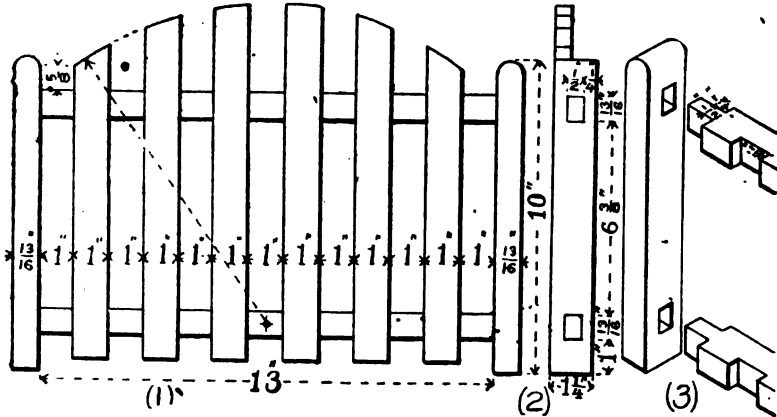


GENERAL DIRECTIONS—Dress stock to $\frac{3}{4}$ inch in thickness and mark out two pieces as shown in (3) and two pieces as shown in (4.) The bevel for edges is shown in (5.)—Square across the beveled edges for points to start end bevels.—Saw and block plane ends and join as shown in (1) and (2.) using suitable nails.—Glue together the bottom, dress to given dimensions and fasten with nails.

EXERCISE XXVIII.

Making Small Gate.

STOCK—Six pieces dressed to 1 inch by $\frac{1}{2}$ inch and 12 inches long; two pieces dressed to 13-16 inch by $\frac{1}{2}$ inch and 15 inches long; two pieces dressed to 13-16 inch by $1\frac{1}{2}$ inch and 11 inches long.

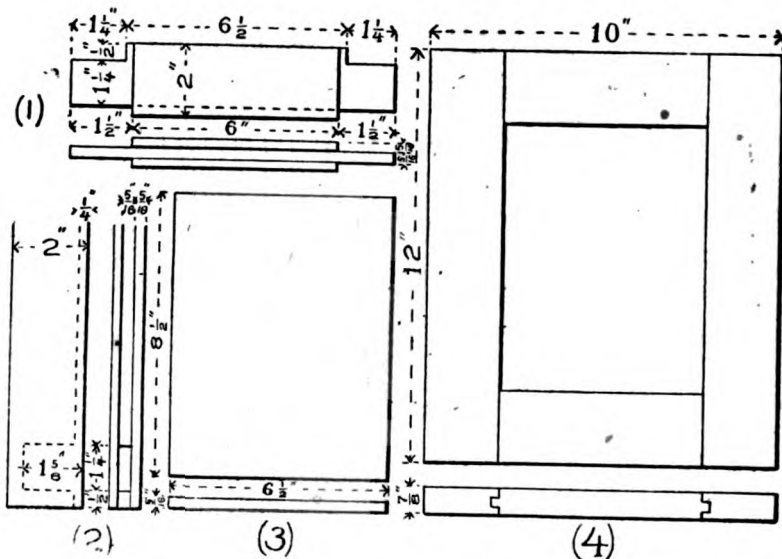


GENERAL DIRECTIONS—After getting out stock straight and square and of correct size, mark and cut mortises, tenons, and gains as shown in (3).—Lay pickets in place and mark tops with compasses as indicated in (1).—The lower ends of pickets should project $\frac{1}{2}$ inch below lower rail.—Secure all joints with glue.

EXERCISE XXIX.

Making Small Panel Door.

STOCK—Pine dressed to proper dimensions as shown in (1), (2), and (3.)

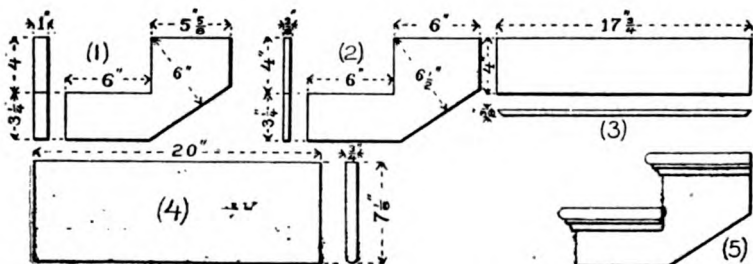


GENERAL DIRECTIONS—In this example and those that follow a full description of the operations cannot be given for want of space, but with the details shown in (1), (2), and (3), and the finished piece shown in (4), pupils ought to be able to proceed after a little study, to mark, cut, and join the pieces as indicated.

EXERCISE XXX.

Making Model of Door Step.

STOCK—Pine boards 1 inch and $\frac{1}{2}$ inch thick.

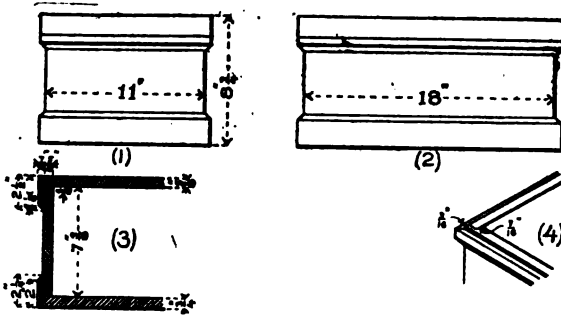


GENERAL DIRECTIONS—Saw out two pieces like (1) for stringers. These need not be planed.—Two pieces will also be required for each of the details shown in (2), (3), and (4).—(2) represents the facing for stringers and (3) the risers.—These are to be joined together at the vertical edges by miter joints.—(4) represents the thread with rounded fronts and ends.—(5) shows end view of finished piece.

EXERCISE XXXI.

Making Small Tool Chest.

STOCK—Pine boards 1 inch and $\frac{1}{4}$ inch thick.

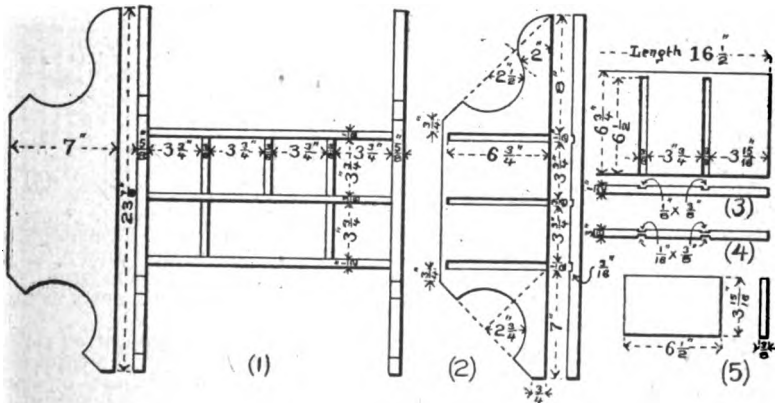


GENERAL DIRECTIONS—Find dimensions of details by inspection of (1,) (2,) and (3.)—Boards six inches wide will need to be glued together to make top and bottom pieces.—(4) shows one of the top corners with lid removed.—The lid should be secured by $1\frac{1}{2}$ inch butts placed 12 inches apart. Instructors will need to show how to fit butts so that the lid will open properly.

EXERCISE XXXII.

Making Case of Pigeon-Holes.

STOCK—Pine boards 1 inch and $\frac{1}{4}$ inch thick dressed to dimensions shown below.

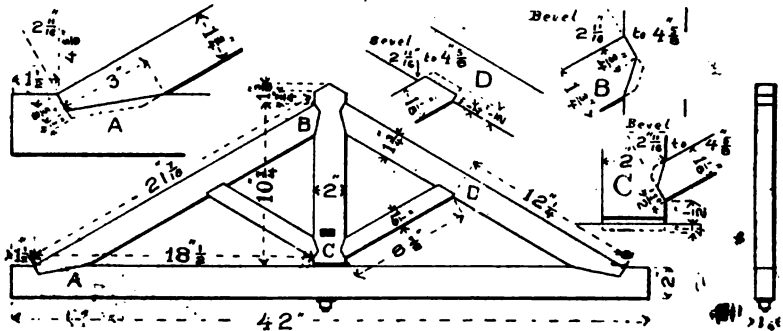


GENERAL DIRECTIONS—Mark and cut details as indicated in (2,) (3,) (4,) and (5.)—(2) shows side pieces; (3) top and bottom shelves; (4) the middle shelf; and (5) the vertical partitions.—Mark the curved parts with compasses and cut with scroll saw.—When joined, as shown in (1,) the pigeon-holes should have square corners, and be of the size indicated.

EXERCISE XXXIII.

Making King Post Truss.

Stock—Pieces sawed from $1\frac{1}{4}$ inch pine plank and dressed to dimensions indicated.

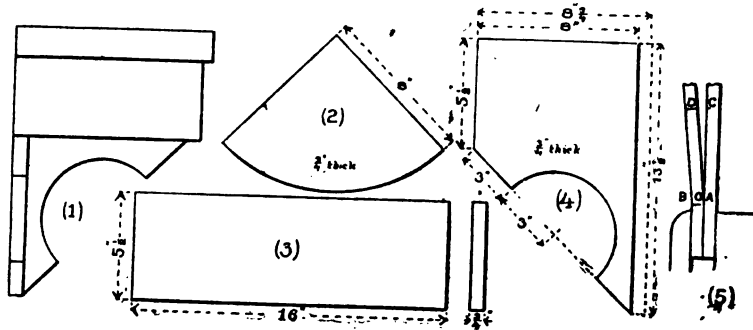


GENERAL DIRECTIONS—Mark and cut joints as indicated at A, B, C, and D, using T-bevel, try-square, rule, gauge, knife point, and chisels. Details of each of these are given with dimensions. The thickness of all pieces is $1\frac{1}{4}$ inch. Make all shoulders $\frac{1}{4}$ inch and the thickness of all tensons $\frac{1}{4}$ inch. One joint bolt at C will secure everything if work is good.

EXERCISE XXXIV.

Bending Wood by Saw Kerfing.

Stock—Pine boards dressed to $\frac{1}{2}$ inch in thickness.



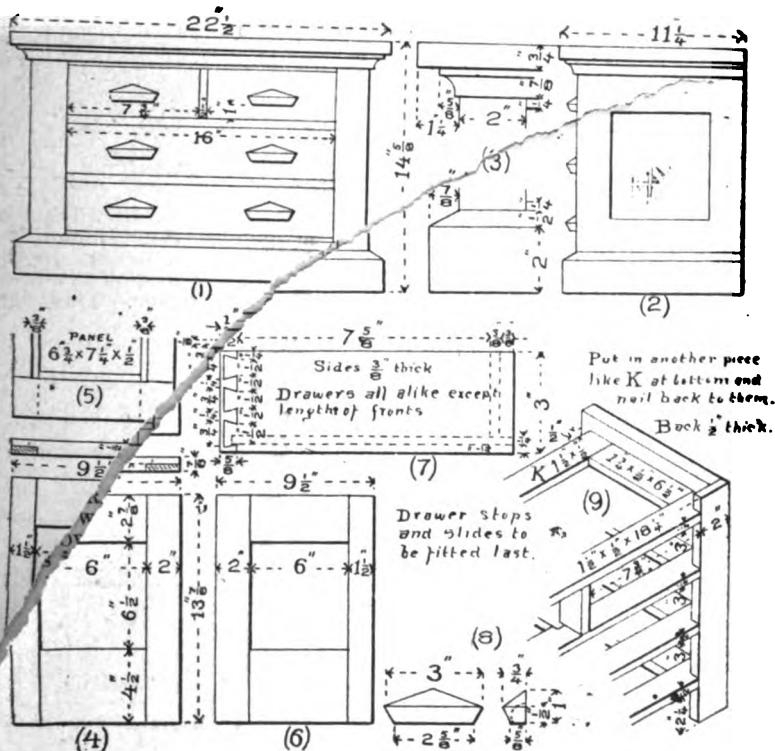
GENERAL DIRECTIONS—Cut one piece, as shown in (2), for bottom of segmental box; two pieces, as shown in (4), for sides, and one piece as shown in (3).—Piece (3) is to be saw kerfed and bent to form front.—A piece 2 inches wide and $\frac{1}{2}$ inch thick is to be bent in the same way around the top after the front is secured.

To find the correct distance between saw kerfs, for any required radius of curvature, select a piece of suitable length and equal to the thickness of the material to be bent as shown in (5.) Let AB be thickness of stuff, and AC the radius of the required curve. Make a saw kerf at BO, leaving a thin veneer AO, uncut.—Fasten the piece in a vice against another straight piece and move it from C to D, or just enough to close the saw kerf at B, then CD being the distance moved will also be the exact distance between each saw kerf. The same gauged thickness of veneer AO must be kept and the same saw used for the work to be done as was used in the trial.

EXERCISE XXXV.

Making Small Case of Drawers.

STOCK—Well seasoned pine of suitable dimensions.

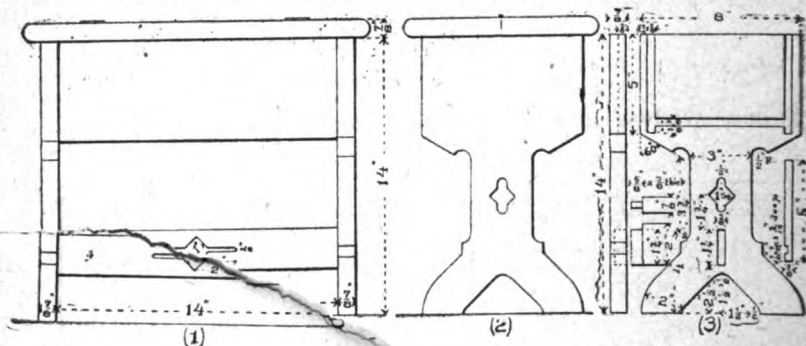


GENERAL DIRECTIONS—Work to the above drawing, which shows the piece complete, and details for every important part. Fasten with glue and a few nails.—No nail heads should show when the piece is completed.

EXERCISE XXXVI.

Making Hard Wood Blacking Case.

STOCK—Oak boards 1 inch and $\frac{1}{2}$ inch thick.

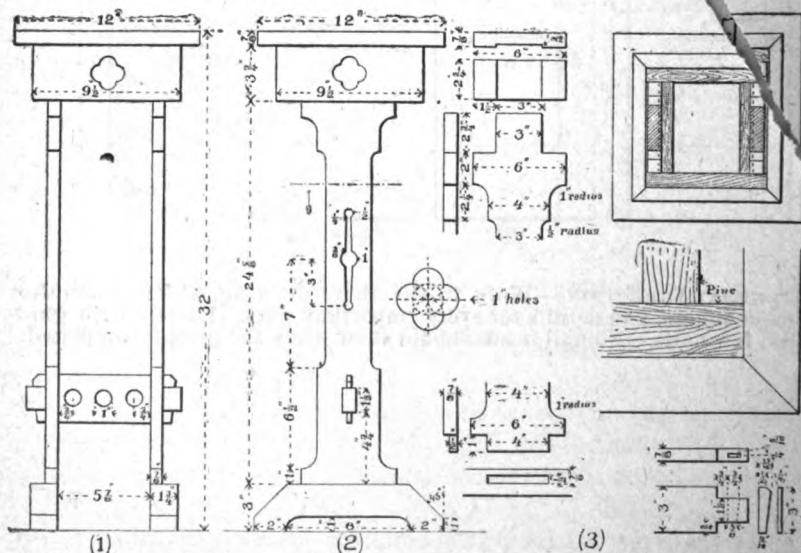


GENERAL DIRECTIONS—Dress stock to $\frac{7}{8}$ inch and $\frac{3}{4}$ inch in thickness, and mark out pieces as shown in (3).—The bottom piece is not shown, but the thickness is the same as that of the sides, 14 $\frac{1}{2}$ inches.—The curved right.—The length of sides and bottom should be 14 $\frac{1}{2}$ inches.—The curved parts may be cut with scroll saw.—Fasten all parts with glue.—This piece should be filled and shellaced.

EXERCISE XXXVII.

Making Hard Wood Stand.

STOCK—Oak or cherry dressed to $\frac{3}{4}$ inch and 1 $\frac{1}{2}$ inch in thickness and a small piece of pine for framework of top.



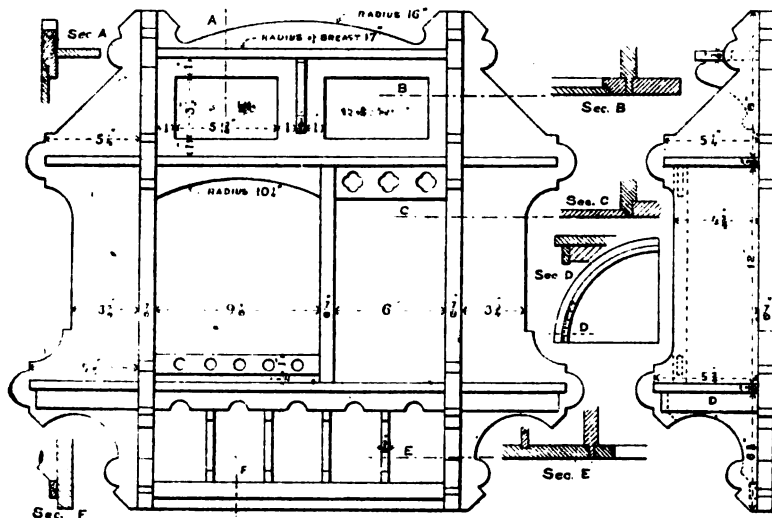
GENERAL DIRECTIONS—Work from the above drawing, which shows the piece complete and in detail.—If any nails are used in making the top

they must be so placed as to be entirely covered when the top is finished.—Fasten top board by means of dowels and glue.—The stand should be filled and finished in hard oil or shellac.

EXERCISE XXXVIII.

Making Hard Wood Wall Cabinet.

Stock—Oak, cherry, or any other wood suitable for furniture.



GENERAL DIRECTIONS—Work from the above drawing so far as details are shown.—Pupils ought to be able, at this stage of the course, to make their own detail drawings for such parts as are not fully given by dimensions in the general drawing.—Finish in the manner described for the two previous lessons.

ITS INFLUENCE IN THE PREVENTION OF CRIME.

One of the most potent, perhaps the most potent cause of crime is the lack of regular occupation for every young man. It is a fact well known to prison managers that a vast majority of the culprits are not masters of any trade, and it may be asserted, generally, that there would be a material diminution in the number of criminals if young men were properly equipped for the duties of life. Dr. Albert Shaw, of Minneapolis, made inquiry of the inmates of the State Reformatory at St. Cloud, and though several claimed to have some knowledge of a trade there was not a thoroughly competent workman among the whole number. In an address delivered by Ex-President R. B. Hayes, before the National Prison Association, in Boston, in July, 1888, he uses the following words: "The ranks of crime are recruited from the unemployed and the idle. Habits

of industry draw the young away from the vices that lead downward. The corrigible criminal can not be reformed without labor; and labor renders the incorrigible self-supporting. If there is any specific for crime, in all its stages, it is labor. The influence of labor in building up character, and thus preventing crime, is a favorite topic with the press and in the pulpit. * * * * *

If the young, of all conditions of life and of both sexes, were trained to industrious habits; taught some form of useful labor; if education gave them the love of labor, the spirit of labor, and the ability to labor, we should soon see the tide turn in our prison statistics. Instead of a constant demand for more prison room, we should be gladdened by a permanent decrease in our prison calendar. Society itself is in large measure responsible for the crimes by which it suffers. The children who have known only want and neglect furnish more than their share of the convicts in all prisons. Add to this all who are educated to idleness—who have grown up without habits of labor or the ability to labor—and you have the lion's part of the prison population."

AS A MEANS OF SECURING A LIVELIHOOD.

We will now consider the question as to whether manual training will enable the subject to secure more regular or lucrative employment. There are two ways of looking at this. No doubt such training would place a man higher in skill, and, to that extent, insure a greater demand for his labor. But, it must not be forgotten that training and education are relative as between individuals. The fact that a man, a few centuries back, had a remarkable advantage over his fellows, if he could even read and write, was due to the circumstance that his neighbors could not read and write. Admitting, then, that the possession of such training would, at the present time, be a means of securing employment, the question arises, to what extent would it be so when all had this training alike. The relative superiority in this respect would have passed away. Here arises a problem in connection with manual training which is well worth consideration. Whether the extreme subdivision of labor, due to improved machinery, will offer any adequate field for the man who has secured such training.

Comparatively few of those who must do the actual work of production can expect to be foremen or directors, while the vast body of industrial workers must confine themselves to the care and management of a single machine. In this limited

sphere there is no field for the application of such training at all commensurate with the possibilities of a trained man. Will it, then, be an object of sufficient importance with the average worker to secure such training (economically speaking) in the hope that at some time, late in life, he may, possibly, secure a foremanship?

The improvements in machinery seem to displace mere physical and manual processes more than those which are purely intellectual. But the factory system of subdivision of labor and machinery, while demanding better training and broader and more thorough knowledge of mechanical principles and processes in the chief positions, enables the manufacturer to dispense very largely, not only with manual dexterity of the general kind which is contemplated in the schools, but with physical and mental capacity, also, in the subordinate places. The growing tendency to introduce women and children into manufacturing industries is conclusive evidence of this. In fact, the multiplication of machinery seems rather to simplify than to render complex the function of the average operative. In view of these facts there is a growing belief that it is useless to learn a trade. May it not prove to be equally useless to acquire training in school which there is so little prospect of applying in practical life?

As bearing upon this subject we present the following paper from the pen of T. V. Powderly, prepared by him for the Sixth National Convention of Chiefs and Commissioners of Labor Statistics:

SETTLE THE APPRENTICESHIP QUESTION BY INAUGURATING INDUSTRIAL SCHOOLS.

BY T. V. POWDERLY, ESQ., OF SCRANTON, PA.

From a paper before me I take the following paragraph. It appears to furnish food for reflection and study:

"A very serious question confronts the American youth under the existing restrictive system of apprenticeship. What is to become of the millions of boys who, having finished going to school, are looking about for something to do?"

This subject is worthy of the best thought of the most profound thinkers of our time, and I make bold to discuss it briefly, in the hope that my words, which at best will serve but as an introduction, may cause others to take up the question itself for discussion.

Have we a restrictive system of apprenticeship in the United States? I fail to find it in operation in many of the trades and callings, and in many others it exists only in name. Its effect on limiting the number of apprentices is scarcely felt in the trade. It is frequently urged that the restrictive system of apprenticeship is driving the American youth from the skilled callings; that the native born is being driven from the workshop to make room for the workmen of foreign birth. It is held by many that the trade union is to blame for this state of affairs; that the Amer-

ican labor organization is inimical to the interests of the American workman. When the mechanic worked steadily for six days in the week to perform a certain amount of work by hand, it was necessary for him to know the use of tools; in order to fit himself for the performance of such a task he had to bind himself to the employer for a term of years, during which time he was taught the rudiments of his trade. He worked for a pittance in the hope of one day being able to take his place at the bench as a journeyman. It made no difference whether he learned the machinist, blacksmith, molding, cooper, or shoemaking trade, they were all hard to acquire, and the mechanics of twenty or fifteen years ago had to learn the whole trade in order to take his proper place by the side of other mechanics when out of his time and upon the road as a journeyman. At present it is a waste of time to bind a boy to any of these trades, or to any particular trade, for the reason that they are all subdivided to such an extent that men are set to work on special pieces on entering the workshop, and remain in that particular subdivision during their term of service. The chief aim of the employer in engaging apprentices is to secure the assistance of cheap help on work that it is not necessary to employ competent mechanics to perform. The opposition of the mechanic to a number of apprentices is that the market may not find too many craftsmen in search of employment; under such conditions wages must have a downward tendency. An apprentice in 1888 does not enter upon the trade as the apprentice of 1858 did. In 1858 the apprentice learned all of the "arts and mysteries" of the trade, while the beginner of to-day is placed at a machine, and is apt to be kept at it during his entire term of apprenticeship. If he is skillful, and manipulates that machine to good advantage, he is more likely to be of better service to his employer than if he were allowed to take turns at all of the different branches of the trade, but when his term expires he is of but little use as a mechanic; for should he apply to another employer for a situation, he may not be lucky enough to find employment at a machine similar to the one at which he served his term, and if he is not so employed he will have to wait until a vacancy occurs, or tramp. During the period from 1859 to 1875 trades unionism flourished more than at any other time in our history; it was during that period that the greatest opposition to an unlimited number of apprentices was manifested by the mechanics of the United States. During that same period the employers of labor learned to go to foreign lands to secure the services of mechanics who would engage to take the places of the American workmen. The employer was not forced to go abroad for workmen, but he regarded the trade society as a foreign institution, and would not recognize it in dealing with his employes. He was inconsistent, however, in going to Europe for workmen who were none the less foreign because he imported them.

During the past ten years, which may justly be styled the decade of the iron man, the importation of foreign workmen by employers was practiced on a most extensive scale. During this same period trades unionism languished in the United States and played but a small part in dictating to employers how many apprentices they should engage; yet employers imported foreign laborers in such numbers as to arouse the American workmen to a sense of danger, when they began to rebuild their shattered organizations, in which work they were encouraged by the Knights of Labor, the latter organization having secured the passage of a law which, although frequently violated by employers, has for its object the prohibition of the importation of foreign labor under contract. The argument that trades unionism is to blame for the presence of so many foreign born mechanics in our workshops is not worthy of consideration. The truth plainly stated is, that every foreigner who is to-day at work in the workshops of the United States is here because he believed he could improve his condition by coming, or is here because he was induced to come by some agent, or bureau, in the interest of the employers of labor in the United States.

It is neither profitable nor encouraging to learn a trade when the chances are that some morning the mechanic will awake to find a machine standing in his place doing the work which he performed the day before.

Inventions have been introduced so rapidly and extensively during the last ten years that many trades have been almost revolutionized. This rapid introduction of machinery has had a tendency to depress wages; the reduction in wages and the lack of security in workshop management has been the cause of sending many a boy to college who would have gone into the workshop after passing through the routine of the common public school.

Americans believe that they live in the best country in the world; the workman being imbued with that sentiment believes that he should receive the best wages in the world. The employer, who may be as proud of his country as the workman, when it comes to a question of employing an American because he is a countryman, or securing the services of cheap workmen, will cast his lot with the foreign workman and the dollars-and-cents side of the question. The foreign workman, not knowing what his services ought to bring in this land, will step in the shoes of the American workman who received from \$2.50 to \$3.00 a day, and be recompensed at a rate not exceeding \$1.50 or \$1.75 a day. Having lived where it was necessary to practice the most rigid economy, he brings his economical habits and ideas with him, and for a time he can exist on the wages paid to him.

We also find the manufactories of the United States being operated as though they were the property of one management. The tendency is to bring them under one common head through the agency of the "trust." Independence on the part of the workman is being crushed out, for he has only to work in one mill, workshop, or factory in one part of the country and he becomes known all over. This system, although in its infancy, bids fair to become so perfected that it will be impossible for a man to work in any part of the country if his last employer is dissatisfied with him. The tendency throughout for the past few years has been to discourage the American youth when he sought to learn a trade. He is unwilling to spend years in acquiring knowledge which may never be of service to him. The colleges and universities are full to overflowing, and soon the professions will be as crowded as the trades are to-day.

This is an age of revolution and evolution. It is the most marvelous age the world has ever witnessed, and nothing that has gone before can be compared to it, or cited as an indication of what is to follow. We cannot, with any degree of accuracy, predict anything for the future; we grope and fear to risk too much, lest some new invention completely upsets all our plans and gives the winning hand to another. We find American youths unwilling to learn trades because they do not bring rich rewards or assurances of stability of employment. There is a fascination about the large cities which they did not bear some years ago, and, taking it altogether, we find ourselves in a state of transition almost impossible to describe. What the man of ante bellum days regarded as a luxury is to-day an absolute necessity. Take a look at the room in which you sit when this is read and contrast it with what your surroundings would have been in 1858, just thirty years ago; note the changes which time has worked, not alone in the appearance of the room, but in that of its occupants. Once we put a little oil in a saucer, hung a rag over the edge, struck the flints together and ignited the rag. With such a light our reading and sewing was done. Then we ran the tallow into the mould and made the candle; we next ran the fluid into the lamp, and stood back in awe to see it burn; after that gas began to work its way beneath our sidewalks and into our sitting rooms; then the old Drake farm was tapped, and the world was astounded to find itself burning the product of the earth after the refiner changed its color. Then we said, we can go no farther, and found our words were contradicted by a glare of light which almost rivalled the noonday sun, and electricity flashed itself into favor. [On the 9th of this month, at 11 o'clock at night, I saw a man painting a sign on Chestnut street, Philadelphia, without the aid of lamp or torch; electricity answered every purpose.]

Ten short years ago we wrote our letter, or, if we were in a hurry, we telegraphed to our friends; to-day we call up the exchange and talk across cities and counties. Soon states will be traversed by the sound of the

human voice. To-day we talk into a funnel, and not only are the words recorded, but the very sound and quiver of the voice is faithfully preserved to be repeated as often as may be required at any time during our lives or after death. We stop and ask, What next? The answer comes with the rapidity of lightning from some quarter of the universe in the shape of a new invention. What has this to do with the American youth? Everything, for we must devote more time to him than heretofore, so that he may not, Micawber-like, stand in idleness waiting for something to turn up. Let us turn it up for him by inaugurating a system of industrial schools in which the arts, the sciences, and trades will be taught. Surely the American youth is worthy of the best that we can do for him, and we should encourage him in his first steps that his later ones may be for the good of the nation. At the rate at which science is advancing there will soon be no shoveling of earth, no leveling of hills by hand, no digging of trenches, no cutting of earth, or wood, or iron by hand: all of these things, and all else that enters into the industry of the world, will be done by the aid of science. There will be no trades or tradesmen of any special callings or crafts. In the world's production nothing should be missing, nor should one man have an advantage over another which nature does not give him. We will have men of no particular trade, but all men will know all crafts, not the "Jack of all trades," but a far different being who knows all trades well. Every school room should be a workshop, a laboratory, and an art gallery. At present a trade learned is a trade lost, for the learner does not have an opportunity to practice but one part of his calling, and if thrown out of that one groove cannot fall into another. Under an industrial system of schooling every American youth will know sufficient of all trades to step into whatever opens itself to him, and he will not be forced by circumstances to stand in the way of another who is anxious to rise, but will be fitted to take a step forward at a moment's notice. He will always find work to do and will do it more rapidly, with better tools and for a greater reward than the artisan of the present. The unsettled conditions which now make trades unionism a necessity will vanish, and in that age there will be but one organization necessary, the fatherhood of God and the brotherhood of man.

To illustrate the practical work which such training is intended to accomplish, we quote from a paper read by James H. Smart, L. L. D., President of Perdue University, Indiana, before the Sixth National Convention of Chiefs and Commissioners of Labor Statistics:

"The difficulties which confront the American boy who wishes to learn a trade are many. He can find employment in a shop or factory in which he may perform rude labor, or in which he may acquire skill in certain hand manipulations, or in which he may become an automatic attachment to a machine. But builders, manufacturers, and superintendents are not found now-a-days who are willing to spend time to teach a boy the various steps or processes necessary in the acquisition of a trade. In many of the lines of manufacture, if not in most, competition is so strong and the division of labor has become so necessary, that manufacturers cannot afford to do this. Indeed, no one now wants a pin maker, but it is the skillful one-sixtieth part of a pin maker that finds employment; in other words, a part of a machine.

The old fashioned and somewhat effective apprentice system has gone, and nothing adequate to the demand has come to take its place. There is a process by which a boy may learn a trade, but at what a loss of time, money, and sometimes of morals. Let us see if this cannot be made apparent.

Suppose a boy enters a printing office, for example, in which he expects, and is expected to learn the trade in all its parts. The process is a tedious one. I once had occasion to frequent a printing office in which were employed seven boys. The proprietor informed me that it would take them at least three years before they could become journeymen—they were to

receive an average of thirty cents a day for the three years. I found that the boys, although very busy, were spending their time in *not* learning the trade, and, so far as I could learn from inquiry and observation, no attempt was made to give them any systematic instruction in it. They were engaged for the most part in labor, but were permitted to *pick up*, as the proprietor expressed it, as they had opportunity. Now, this "picking up" process, while it is possibly profitable for the employer, is not the most profitable method for the boys. It results in four things:

It results, in the first place, in a waste of time. This is bad enough, but something else occurs that effects the character of the boy's work. The "picking up" process will seldom produce expert workmen. Need I call your attention to the fact that the country is full of men who pretend to be carpenters and who are not, men who pretend to be machinists and who are not, men who pretend to be pattern-makers and moulders and blacksmiths and shoemakers and tailors and printers, who are shabby, incapable workmen at best? Who that has built a house does not know this? There is not a manufacturer in this country that does not know it and to his cost, and one of the most difficult things that a manufacturer has to do is to sift out the few really good workmen from those who pretend to know how and do not. The engines that will not work, the machines that wear out, the houses that are shabbily constructed, and the fabrics that fall to pieces will attest the truth of what I say. How many workmen are there that take God's bounty and by careful, skillful, intelligent processes make the most of it? Here is a waste surely. But who could expect better results from a process so full of mischief.

Another result of the "picking up" process comes from the fact that it fails to awaken in the boy a keen ambition, without which success in any employment is seldom secured, hence it is that many boys who enter factories and shops for the purpose of learning a trade, become restless, tired and discouraged, and leave the business to possibly try another, and thus become the good-for-nothing jack-of-all-trades, or to join the ranks of the non-productives and possibly the ranks of the destructives.

The "picking up" process has a moral aspect which has wastage in it. Every handicraft carried to a high degree of excellence may become a fine art and with no loss of time. There is no dignity in labor, but dignity may be put into labor. When a man does something that is fine of its kind, whatever the kind may be, it awakens sentiment in respect to the products of even the commonest handicrafts. The very best citizen and the most valuable man is he who takes God's bounty and produces something of high value out of it, and who takes pride in what he has wrought.

While book knowledge is of great value, the education which comes from a thorough knowledge of one's vocation, has also a high disciplinary and economic value.

In certain important trades in which the processes are few, the bricklayers trade, for example, more satisfactory results are secured to those who are permitted to enter them as apprentices, but through the operations of the Trades Unions, the avenues to the trades to which I refer are not open to the many.

The results of the abolition of the old apprentice system have been observed in England and in France, as well as in America. I quote from a thoughtful article on this subject recently written by Prof. Sylvanus Thompson, an eminent English physicist:

"Apprenticeship, with its wholesome rules, having decayed in every thing but form, the lads who enter the shops are never properly instructed, but are made the drudges of the older workmen. What wonder that they acquire habits of idleness and carelessness that not only pursue them through the whole of their work, but, worse than this, corrupt and undermine their morals? What wonder that their manipulation is but half acquired, or that the methods and devices they learn to apply are those of half a century ago; ancient relics of prejudice and unscientific "rules of thumb," handed down by the tradition of the shops; a veritable survivor of the unfittest?"

Mr. George Howells, in a very able paper on this subject, speaks as follows:

"But a change was coming o'er the spirit of the dream; another day was dawning fraught with still greater issues to the journeymen, for, instead of the old system of master and craftsman, there grew up quite another kind of mastership and of hiring. The master had already begun to be less the craftsman and more the employer. Instead of the old fealty between master and men there came estrangement more and more, until sometimes the work people scarcely ever saw their veritable employer. Under these circumstances the conditions of apprenticeship were completely changed, not suddenly, but gradually, until the apprentice became merely the boy worker, with less wages, but more solemn engagements, than a journeyman. The master to whom he was bound no longer taught him the trade; he was, so to speak, pitchforked into the workshop to pick up his trade as best he could, or to learn it from the many journeymen who were there employed. It was no one's duty to teach him; there was no pay and no responsibility."

Prof. Thompson, in summarizing the results of the new system, speaks as follows:

"At the present moment, this tendency to despise a life of honorable manual toil, in straining after a supposed gentility, would be truly pitiable, if the proportions it has attained did not awaken more serious apprehensions. It is an evil not confined to this country alone, but it is known, too, in the great cities of the states, of Germany and of France."

Since I speak to a convention of statisticians, I suppose I ought to give you a tabular statement or two. Some months ago I sent out circulars to employers, in some of the industries and in various parts of the country, asking the following questions:

1. What is the average number of persons that you employ who come to you for the purpose of learning the trade?

2. How many of these remain with you long enough to become journeyman?

3. Of those who become journeymen, how many succeed in becoming first-class workmen?

These were sent to (1) carpenters and joiners; (2) pattern-makers; (3) molders; (4) blacksmiths; and (5) machinists. From the replies received, and they were numerous, I formulated the following conclusions:

1. That out of every ten who enter a carpenter shop with the intention of learning the trade, four abandon the business; of ten pattern-makers, two; of ten blacksmiths, six; of ten molders, five; of ten machinists, six.

2. Of those who pursue the business and become professed journeymen, but three become first-class workmen; of ten pattern-makers, but two; of ten blacksmiths, two and a half; of ten machinists, three and a half.

We can thus construct the following interesting table, which shows the number of boys out of every hundred who enter each trade mentioned, who become first-class workmen, viz.:

Carpenters.....	18
Pattern-makers.....	16
Blacksmiths.....	10
Molders.....	17
Machinists.....	14

Being an average of fifteen to each one hundred.

Thus it is that the very process we take to educate a boy into the various handicrafts is the process by which we educate him out of them. It has been claimed by many that the public schools were largely at fault in this matter.

I again quote from Prof. Thompson, as follows:

"In all the constructive trades the greater part of a workman's instructions are given to him in the form of working drawings. Yet we suffer the budding artisan to pass through the schools ignorant of the first rudiments of a science that is as essential to his work as are the four rules of arithmetic. And ought we, then, to be surprised if, in pursuance of the system we have deliberately marked out for the rising generation, we keep our future artisans, till they are fifteen or sixteen, employed in no other work than sitting at a desk to follow, pen in hand, the literary

course of studies of our educational code, we discover that on arriving at that age they have lost the taste for manual work, and prefer to starve on a threadbare pittance as clerks or book-keepers rather than by the less exacting and more remunerative labor of their hands?"

And again:

"The taste for manual work is imbibed at a very early age, and there is not wanting evidence to prove most distinctly that even a very small amount of manual labor introduced into the elementary school serves to keep alive the capacity for active employment and the manipulative skill of the fingers."

While I am not prepared to say that our schools ought to be turned into workshops, or that shop practice should become an integral part of our school system, I am prepared to say that those who make the courses of study in our schools often forget that the great majority of their pupils must earn their living by manual labor. I am prepared to say also that if every considerable city and town in the country could establish a special manual training school for its boys and its girls, much of the evil of which I speak would disappear.

It remains for me to answer this question: What is the result of the experiments that have already been made? I know of no better way of answering this question than by telling you what has been accomplished in the mechanical department of the institution with which I am connected.

It is the purpose of our school of mechanical engineering to afford young men an opportunity to acquire a good collegiate education in mathematics, science, literature, and art, and at the same time to secure instruction and practice in such lines of work as will fit them to engage in the practical industries of life.

The student has his four years' instruction in geometry, trigonometry, analytics, calculus, physics, chemistry, English literature, history, psychology, political economy, and in modern languages. In addition to this he spends two hours per day, for a period of two years, in carpentry, wood, turning, pattern-making, molding, blacksmithing, and in machine work.

The usual methods of text-book study, recitation, and lecture are employed, but the student is required to put into practice, so far as possible, the instruction which he receives. He, for example, not only receives instruction in regard to the theory and principles of drawing, pattern-making, and machine construction, but he is required to make working drawings himself, to construct patterns, to make the castings in the foundry, to finish and set up the machine, and to operate it when it is completed. This combination of the theoretical and the practical characterizes the institution.

During the last two years of his course he spends two hours per day in making plans and designs for machinery, in testing building material, in boiler and engine tests, in dynamometric tests of power, and in advanced experimental engineering, but it is of the work of the first two years of which I wish to speak chiefly.

Now, the average boy will spend three years in learning the carpenter's trade, three years in learning the blacksmith's trade, three in learning pattern-making, three in the foundry, and three in learning to become a machinist. It will doubtless take the average boy ten years at ten hours a day by the ordinary faulty methods, which I have tried to describe to you, to master these five trades. Experience shows that 95 per cent. of our boys can produce superior results in all these departments of labor by working two hours a day for the first two years of his college course.

(The President here exhibited a large number of specimens of joinery, pattern-making, castings, forgings, and of machine work, which were closely examined by all present and pronounced remarkably fine specimens of work. Indeed, this examination proved one of the most delightful features of the Convention, and deeply impressed all with the great benefits arising from this line of education.)

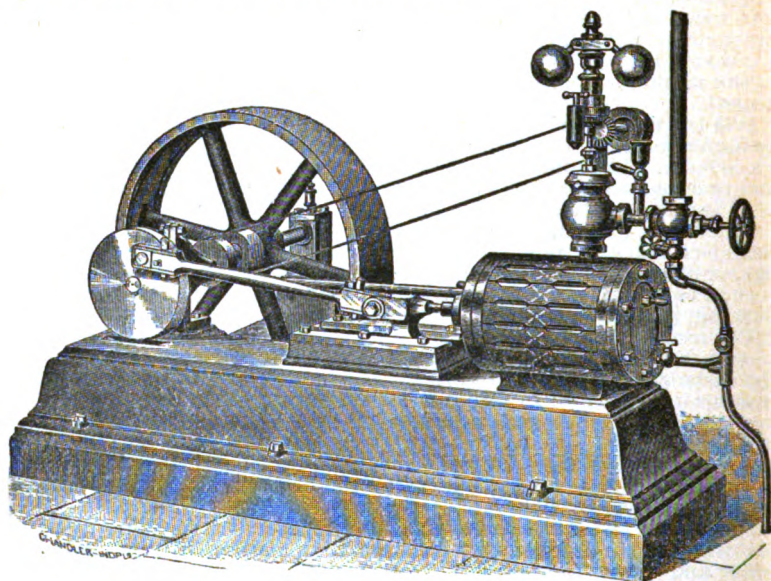
Continuing, President Smart said:

You ask, how is this accomplished? In the first place, the boy is instructed in the theory of work; he is taught in respect to the use of tools;

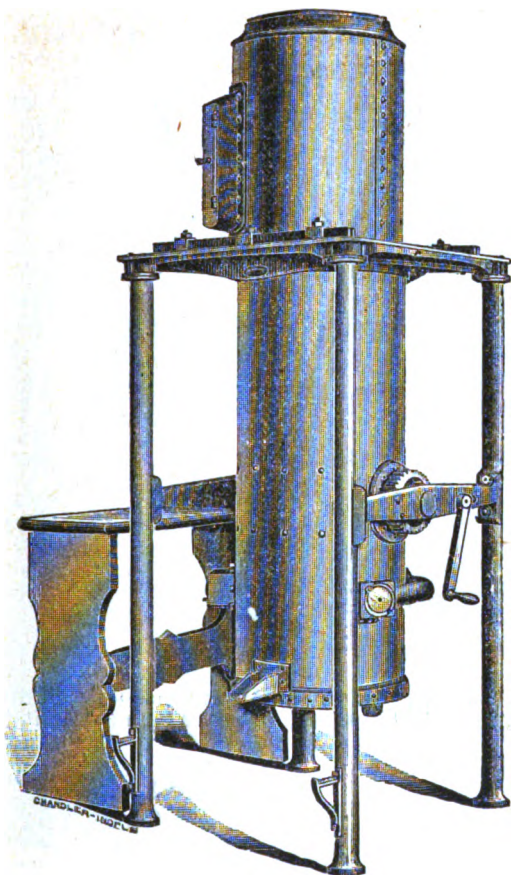
he is set to work to do the thing himself under competent instructors; no attempt is made to make money out of him. So soon as he learns to do one thing well, he is immediately set to work on another, involving a higher degree of skill. His ambition is aroused because he discovers that he can very soon learn to do a fine thing. Since he has learned to make and use working drawings there is an accuracy and a precision about every movement that he makes, and all these things bring the desired result about easily and satisfactorily.

You ask if what they have made has been put to any practical use. Yes, our boys have made many machines that are now in use in our shops, and have furnished other technical schools with similar appliances. While they spend much of their time at first in doing work which may be called practice work, it is intended that all may have a hand in making some machine that is put to a practical test."

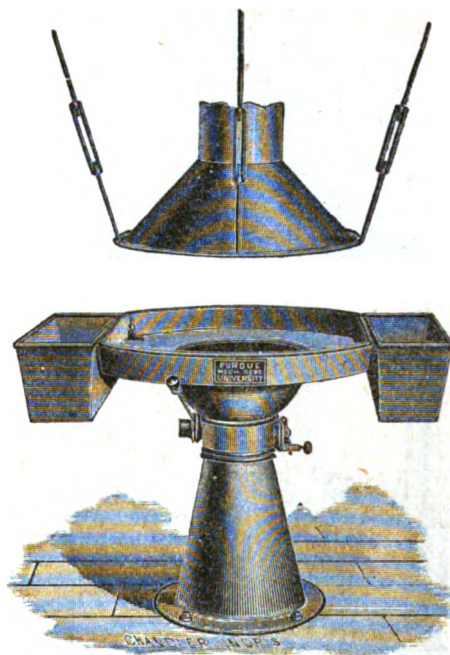
Here, for example, is the picture of a stationary engine. It works as perfectly as any engine we have ever used—indeed it is more perfectly finished than most of the engines that are on the market.



Here is a picture of a cupola furnace. It has been in use in our foundry for three years, and does its work admirably.

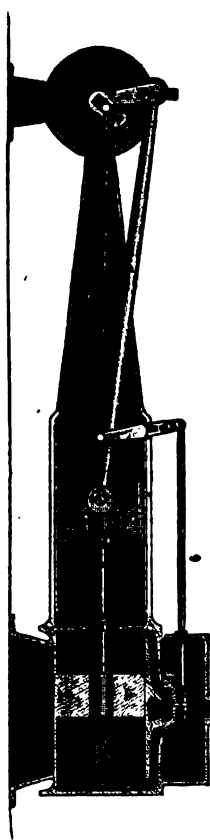


Here is a picture of a Purdee forge, twelve of which we have been using for three years.



The drawings and patterns of all these were made by Purdue boys. They were set up and finished by them, and have been constantly used by them.

It is by this process that the boy sees that what he does means something, and every freshman understands that what he is now doing may become a part of a useful instrument. I may say that two years ago our boys made and sold thirteen machines, and they are now in use in the Alabama Training School.



Here is a picture of a section engine which shows, in an ingenious way, the construction and operation of an ordinary slide valve machine. It was made by Purdue boys from a roll of paper for the design, some pine boards for the patterns and some pig iron for the machine itself; that is, it was designed and made out of the raw material in our shops. If you want to see boys interested in their work you must watch them about the time the various pieces upon which they have been working are brought together and set up into a living, breathing, moving piece of machinery.

Some of you will ask, is it your purpose to make carpenters and blacksmiths? I answer, this is our incidental but not our final purpose. Our purpose is to teach the principles that underlie all the constructive trades, and to fit the boy to become a designer of machines, a master of construction; in other words, a mechanical engineer. We hold that a mechanical engineer should himself be a good mechanic. I may add that we hold also that a civil engineer should be a good mechanic. Those who wish to become expert mechanics merely remain with us two years, while those who wish to become mechanical engineers remain four.

Question. What per cent. of your boys become expert workmen?

President Smart. Over 90 per cent.; as large, if not larger, than in any other department of our work.

Ques. How do the boys who take instructions in mechanics stand in their academic work?

Pres. Smart. They generally stand very high, and there is a reason for it. When boys do a fine thing in one direction, they are likely to do a fine thing in another. Then again, when boys have to put two solid hours into hard work in the shops, they are prepared to go to their rooms and sit down and study, and with a freshness that enables them to accomplish a great deal in a short time. I think I can say

that the average boy who spends two hours in the shops can do more with a given number of academic studies than a boy who does not. Thus we see that whatever is obtained from shop practice is *more than clear gain*.

Ques. Why do you give instruction in wood and iron and with no other material, brick and leather, for example?

Pres. Smart. We give instruction in the use of wood and iron because a larger number of constructive trades are based upon wood and iron than upon all other materials combined.

Ques. Is not your work objectionable on the ground that your graduates will enter into competition with workmen who are now already in the field?

Pres. Smart. Is it possible that there is a man in this country who is afraid of the competition of his own child? If there is such a one I think I can give him a good answer. My answer is this: The meanest form of competition which a good workman has to contend with is the competition that comes from a man who has spent little or no time in learning his business, and who, therefore, produces an inferior job at a lower price. This is the only form of competition which a good workman need fear. If a man does as good a job of work as you do, he will charge a fair price

for it. This is not the competition that has evil in it; indeed it is, in a sense, a co-operation; at all events it is a good thing, a healthful thing.

We are trying by our work at Purdue to prevent the destructive competition, and we think we are succeeding satisfactorily. Our graduates receive good salaries, and I am sure that does not have a tendency to lower the wages of other good workmen. We think it is good for the boys to be with us, and a good thing for every one else.

As previously remarked, with reference to this state, no data is available showing the occupations into which manual training pupils enter after leaving school, nor any, therefore, with reference to the degree of success which they attain in after-life. Very meagre data upon this point can be had in the country at large, but as it is, perhaps, the most important inquiry in connection with the investigation, we present what can be found on the subject. Director Woodward, of the St. Louis School, says:

"The number of students attending the school last year was 230. The number who were graduated, receiving the diploma of the school, in June last, was 52. Of those, at least 18 have entered Washington University or elsewhere as freshmen; a majority of these advanced students will become engineers, architects, or teachers. The school thus proves to be a most successful preparatory school for higher education. Those who have gone to work have scattered into a great variety of occupations, the greater number finding opportunity to profit by their knowledge of tool work and workmanship. The tendency towards responsible and lucrative positions is highly marked. The following list of occupations includes all the graduates of the first three classes—1883, 1884, and 1885:

Students of engineering, law, or medicine.....	20
Clerks.....	22
Teachers.....	10
Draftsmen or architects.....	10
Machinists.....	6
Artisans: Pattern-maker, bricklayer, shoemaker, with power machine, moulder, electrician.....	5
Farmers or ranchmen.....	4
Business men.....	6
Foremen or superintendents.....	4
Ticket agent.....	1
Engineers Mechanical, civil, or mining.....	7
Manufacturers.....	6
Total.....	101

"Over a year ago the average monthly wages of those in the above list who were earning regular wages was about \$74. Their average age at that time was 20 years.

"In the higher classes of this university I am daily brought in contact with graduates of the Manual Training School, and I have abundant opportunity to observe their mental and moral characteristics. My observation confirms the unanimous verdict of my fellow professors, to the effect that manual training is almost indispensable as a preparation for higher scientific or professional training. It gives great power of close examination and logical analysis. It encourages habits of precision and system in planning and executing tasks. It makes many things possible in the laboratory and class-room which would otherwise be almost out of the question. When a student turns to his draughting instruments and to the bench, lathe, or anvil as naturally and with as much confidence as to his table of logarithms or his dictionary, he occupies a vantage ground which his fellows are quick to recognize.

"As to the ability of our graduates to step to the front in the line of practical mechanics, I take the liberty of quoting from the letter of the general foreman of a large system of railway shops, sent in answer to an inquiry as to the outcome of manual training:

"As an employer, I will say for several of the manual training school boys I have working for me, that they will in one year accomplish as much as the ordinary boy (who has not received the training the manual training school gives) will in three. For example, I have two boys working side by side, one from the school and the other an uneducated boy; the former has been working here nine months, while the latter has been here over three years, and to-day the boy from the school will do better, cleaner, neater, quicker work by far than the other boy. One boy learns the trade by imitation, while the other learns it by reason and study. The boy from the school is more precise and neat about his work, grasps a new idea more readily, looks upon the new features of the business with greater intelligence, and is better able to direct others and to bear responsibilities. He has better command of language and can impart to others the ideas he wishes them to obtain. When a difficult point arises the school boy will labor with it until he conquers it, while the other boy will study a while, then give it up. Were I to need a clerk, apprentice, or draughtsman I would and do give the Manual Training School boys the preference, because I get much better results with less trouble."

"I am tempted to add, as a final word, the testimony of a graduate himself (one out of two hundred) and the work he is doing. He says:

"The principal part of my work is the making of wood and brass patterns and core-boxes, and keeping them in order; I also do the greater part of the drawing for the shop; but I am by no means limited to these, as, for the last three or four days of each month, I am called to help get work out, and to help Mr. Jones figure, etc. * * * *I usually get the work that is out of the ordinary line.*"

In the Chicago Manual Training School 19 of the 49 graduates of the first class, that of 1886, are attending higher technological schools, principally the Massachusetts Institute of Technology, Sibley College, Cornell University, and Purdue University. Of the 55 students who have withdrawn from the Baltimore school all but six are following mechanical pursuits. At the Philadelphia school about 20 per cent. have gone to colleges, 10 per cent. have returned to pursue special courses, and about 50 per cent. have engaged in some business in which mechanical skill and drawing is the essential requisite.

With these figures before us we cannot resist the conclusion that the graduates of these schools are apt to follow a mechanical occupation, and the question arises whether this tendency is due to the technological training received in these schools. We have given, on page 870, the analysis of the statistics of the Erie, Pa., high school for the 20 years last past, in which the principal sees a proof of the falsity of the charge that the public schools are educating their pupils to dislike working with their hands; and we will now give the statistics as to the vocations followed by the 600 graduates of the Philadelphia high school from 1843 to 1846, attempting to classify them under two heads:

WITH HANDICRAFT.		OTHERS.	
Architect.....	2	Gilder.....	2
Dentist.....	1	Glass cutter.....	2
Druggist.....	9	Hatter.....	2
Engraver.....	12	Iron founder.....	2
Baker.....	2	Machinist.....	26
Blacksmith.....	13	Mariners.....	15
Book-binder.....	10	Painters.....	8
Bricklayer.....	17	Plasterers.....	2
Brickmaker and stone-		Ploughmaker.....	1
outter.....	8	Plumber.....	1
Carpenter, etc.....	63	Printer.....	20
Cooper.....	2	Sadler.....	8
Cordwainer.....	25	Sailmaker.....	2
Currier.....	11	Tailor.....	3
Cutler.....	1	Tinman.....	3
Farmer.....	20	Tobaccoist.....	3
		Watchmaker.....	4
		Weaver.....	4
		Cadet.....	2
		Clerk.....	45
		Stores.....	160
		Conveyancer.....	17
		Engineer.....	10
		Grocer.....	4
		Jeweler.....	3
		Lawyer.....	4
		Manufacturer.....	3
		Physician.....	2
		Teacher.....	33
		Uncertain.....	22
		Dead.....	1
		Total.....	639

It will be observed that the clerks, that much-abused class, compose about 35 per cent. of the whole number as far as ascertained. It will also be noted that about half of the whole number labor with their hands. To

such the technological training of the manual training school would have been of more or less value.

The total number of graduates from the several schools has been 589, of whom 275 graduated in June, 1888.

There are two theories of education: One says that the business of the public school should be to cultivate character instead of faculty; to train men how to live, not how to get a living. The other is what may be called the practical or material view of education—the giving of instruction to children in order that they may be better fitted to acquire the means of life

To show the practical nature of the work being done in manual training schools, we print a few of the courses of instruction for boys and girls:

LESSONS IN THE MANUAL ARTS.

LESSON I.

HAMMER: Exercises in striking a block of wood with hammer, to show wrist, elbow, and shoulder movements, and to learn to strike "square." Exercises in driving nails of different sizes, perpendicularly, and in drawing them. Exercises in nailing two boards $\frac{1}{2}$ inch thick together, with nails of different sizes driven obliquely, and in drawing them.

CHISEL AND TRY-SQUARE: Take boards 6 inches square, mark out the corners square with try-square and lead pencil; cut them out perpendicularly with 1-inch firmer chisel. Take board 6 inches square, round the corners with 1-inch firmer chisel, cutting perpendicularly; prove with try-square.

LESSON II.

CHISEL TO LINE: Take piece 12 inches long, $1\frac{1}{2}$ inches wide, $\frac{1}{2}$ inch thick, and mark with rule and compass a pointed arch, at one end, and a round arch at the other end; shape out with 1-inch firmer chisel, cutting with the grain from sides to center of arch.

HALVING: Take two pieces 6 inches long, $2\frac{1}{2}$ inches wide, $\frac{1}{2}$ inch thick, and halve them together, using rule, try-square, single gauge, scratch awl, back saw. $1\frac{1}{2}$ -inch firmer chisel, and cutting board. *Always use cutting board to save cutting the bench.*

HALF DOVETAIL: Make a half dovetail with one piece 5 inches long, $1\frac{1}{2}$ inches wide, $\frac{1}{2}$ inch thick, and one 4 inches long, $1\frac{1}{2}$ inches wide, $\frac{1}{2}$ inch thick, using same tools as in 2, except $\frac{1}{2}$ -inch chisel instead of $1\frac{1}{2}$ -inch.

LESSON III.

END MORTISE AND TENON: Take piece 5 inches long, $1\frac{1}{2}$ inches square, and form mortise on one end; take piece same size and form tenon at one end; using rule, try square, scratch awl, mortise gauge, back saw, $\frac{1}{2}$ -inch chisel, and bench vise.

BORING: Take piece 3 inches long, $1\frac{1}{2}$ inches square, center the sides and ends with single gauge, put in the vise, and bore half way through with $\frac{1}{2}$ -inch bit; reverse, and bore from the other end. Repeat the above, using $\frac{1}{2}$ -inch, $\frac{3}{4}$ -inch, $\frac{1}{2}$ -inch, $\frac{3}{4}$ -inch, and $\frac{1}{2}$ -inch bits.

LESSON IV.

SAWING SQUARE: Take piece 12 inches long, $1\frac{1}{2}$ inches wide, $\frac{1}{2}$ inch thick, mark two sides one inch from end, with try square and scratch awl, and saw off evenly. Repeat above, sawing off piece $\frac{1}{2}$ inch, $\frac{3}{4}$ inch, $\frac{1}{2}$ inch, $\frac{3}{4}$ inch, and $\frac{1}{2}$ inch.

THROUGH DOVETAIL: Take one piece 4 inches long, $1\frac{1}{2}$ inches square, and

one piece 3 inches long, $1\frac{1}{4}$ inches square, and make through dovetail. Using $\frac{1}{4}$ -inch chisel for cutting.

LESSON V.

JACK PLANE: Take piece 18 inches long, 12 inches wide, $1\frac{1}{4}$ inches thick, place on bench, flat side down, end firmly against bench hub, and plane off a few shavings with jack plane, as set. Take the plane apart, naming its parts; put it together and practice setting it, comparing the shavings, until it is set correctly. Take piece 6 inches square, $\frac{1}{4}$ inch thick, mark off the corners, forming an octagon; using rule, compass, and scratch awl. Saw off corners, leaving line, and smooth edges with block plane.

CROSS CUT SAW: Take board 8 feet long, 6 inches wide, $\frac{1}{4}$ inch thick, lay off a line with try-square and lead pencil, 6 inches from the end, saw off, leaving line. Repeat above, sawing on the line.

LESSON VI.

GROOVING: Take piece 3 inches long, 3 inches wide, $\frac{1}{4}$ inch thick, and make a groove $\frac{1}{4}$ inch wide, $\frac{1}{4}$ inch deep, through the centre, across the grain, using rule, mortise gauge, try-square, scratch awl, back saw, bench hook, $\frac{1}{4}$ inch firmer chisel, bench vise, and cutting board.

Take piece 4 inches long, 3 inches wide, $\frac{1}{4}$ inch thick, cut a tenon on one end to fit groove; using same tools as above; round the ends of both pieces with firmer chisel, using try-square to prove correctness of work; put together and test with try-square.

RIPPING SAW: Take board 8 feet long, 12 inches wide, $\frac{1}{4}$ inch thick, mark off with single gauge a strip 2 inches wide; put it on the horse and saw to line; then put the board in the bench vise, one end resting on the bench pin; plane with jack plane, and true up with jointer, using try-square to prove it. Repeat above, sawing on the line.

LESSON VII.

FRAMING: Saw from stock a strip 2 feet long, 1 inch wide, $\frac{1}{4}$ inch thick, using single gauge and rip saw. Square up with fore plane, trying plane, and try-square. Saw off with back saw, piece 12 inches long, for stile, and one 5 inches long for rail. Form mortise in stile, and tenon on rail, using bench vise, back saw, bench hook, 1 inch firmer chisel, $\frac{1}{4}$ inch mortise chisel, and mallet.

LESSON VIII.

FRAMING (completed:) Drive together the pieces prepared in the last lesson and smooth face with block plane.

HALVING: Saw from stock piece 40 inches long, 1 inch wide, $\frac{1}{4}$ inch thick, using rip saw; square it up with jack plane, trying plane and try-square, gauging to thickness and width; cut off two pieces 12 inches long, and two 8 inches long, and halve corners together, making a frame with ends projecting 1 inch.

LESSON IX.

HALVING (completed:) Round the ends of the pieces prepared in the previous lesson, using compass, firmer chisel, and wood file; put together and smooth up with block plane.

SAWING AND PLANING: Saw from stock piece 12 inches long, 2 inches square; square it and plane all sides; cut from stock piece 4 inches long, 4 inches wide, $\frac{1}{4}$ inch thick; square it and plane all sides.

LESSON X.

GAUGING: Centre with marking gauge, on all sides, from end to end, the 12-inch piece prepared in last lesson. Square off a line all around $\frac{1}{4}$ inch from end, then on that line point off $\frac{1}{4}$ inch on each side of centre on all four sides; from the points thus obtained draw lines obliquely to the

corners at the other end; then draw lines from the said points on the line squared off to the centre of the top.

BEVELLING AND CHAMFERING: Bevel with draw knife and plane true, using bevel to prove the work. Chamfer the top to a point, as marked out.

LESSON XI.

DOWELLING: Draw a line through the centre of the base of the column made in the last lesson; point off $\frac{1}{4}$ inch on each side of centre. Make centres with scratch awl to bore from, and bore holes perpendicularly $\frac{1}{4}$ inch deep with $\frac{1}{4}$ -inch twist bit. Glue in $\frac{1}{4}$ -inch dowels, ends to project $\frac{1}{4}$ inch. Centre the piece $\frac{1}{4}$ inches square prepared in Lesson IX. Measure $\frac{1}{4}$ inch on each side; bore perpendicularly holes $\frac{1}{4}$ inch deep. Set gauge $\frac{1}{4}$ inch and gauge round the top and sides; chamfer off using $\frac{1}{4}$ -inch firmer chisel; true up with block plane and try-square. Glue together, making column and plinth.

LESSON XII.

DRAW-KNIFE AND PLANING TO LINE: Saw from stock strip 12 inches long, 2 inches square. Square up sides and ends. Gauge off $\frac{1}{4}$ inch from all the corners; put in bench vise; take off corners with draw-knife, and plane to line.

LESSON XIII.

MORTISING: Saw from stock two pieces 12 inches long, $1\frac{1}{4}$ inches wide, $\frac{1}{4}$ inch thick for stiles, and two pieces 8 inches long, $1\frac{1}{4}$ inches wide, $\frac{1}{4}$ inch thick for rails. Square them up. Form mortise in stiles and saw tenon in rails; mortise to be two-thirds the thickness of the stile, rails to enter stiles $\frac{1}{4}$ inch from the end, and tenons to project $\frac{1}{4}$ inch.

LESSON XIV.

MORTISING (completed): Finish up and fit mortise and tenon, commenced in last lesson, with chisel; round the ends of tenons; drive together, and plane off back and front.

LESSON XV.

GLUE JOINT: Saw from stock two pieces 3 feet long, 3 inches wide, $\frac{1}{4}$ inch thick; plane the edges square, with jack plane, trying plane, and try-square; joint together.

LESSON XVI.

BEVELING: Saw from stock two pieces 3 feet long, 3 inches wide, $\frac{1}{4}$ inch thick; square them up; mark on edge with bevel (set to templet 45°), and plane to bevel with jack plane, fore plane, and trying plane.

LESSON XVII.

BLIND OR MITRE MORTISE: Saw from stock two pieces 6 inches long, 2 inches wide, $\frac{1}{4}$ inch thick; square them up; make mitre mortise and tenon, using try square, scratch awl, mortise gauge, back saw, $\frac{1}{4}$ -inch mortise chisel, and bevel; put the mortised piece in mitre board and plane true.

LESSON XVIII.

BLIND OR MITRE MORTISE (completed): Drive together the pieces made in last lesson; level off faces and ends with block plane; round the ends to finish.

LESSON XIX.

MITREING: Saw from stock strip 18 inches long, 3 inches wide, $\frac{1}{4}$ inch thick; smooth it up and square it; cut into four pieces 4 inches long; mark corners of each piece on flat side with scratch awl and bevel (set to templet 45°); put in mitre box and saw to line; put in mitre board and true up; fit together and test with try-square.

LESSON XX.

MITREING (completed:) Glue together the pieces made in the last lesson, and key it, making a frame.

DOVETAIL: Saw from stock two pieces 4 inches long, 3 inches wide, $\frac{1}{2}$ inch thick; square them up; mark for dovetail and saw out.

LESSON XXI.

DOVETAIL (completed:) Chisel out and fit the pieces made in last lesson; drive them together and level off with block plane; round the ends.

LESSON XXII.

FRAMING AND WEDGING: Saw from stock one piece 6 inches long, $1\frac{1}{2}$ inches square, and one piece 4 inches long, $1\frac{1}{2}$ inches square; square them up; form mortise $\frac{1}{2}$ inch x $1\frac{1}{2}$ inches in long piece, using mortise gauge and $\frac{1}{2}$ -inch mortise chisel; form tenon, on short piece, to fit mortise, and to project one inch; cut hole in tenon, bevelled on one side, for wedge, using $\frac{1}{2}$ -inch chisel; drive together and wedge.

LESSON XXIII.

SQUARING TO SIZE: Saw strip $1\frac{1}{2}$ inches wide from $1\frac{1}{2}$ -inch plank; gauge to size; plane with jack plane, and true up with jointer and try-square.

LESSON XXIV.

PLANING TO WIDTH: Take $\frac{1}{2}$ -inch board about 6 feet long, 8 or 10 inches wide, and saw off strip $4\frac{1}{2}$ inches wide; plane with jointer to $4\frac{1}{2}$ inches; saw off two pieces 8 inches long for sides, and two pieces $4\frac{1}{2}$ inches long for ends of a box; square edges and smooth faces with plane.

LESSON XXV.

DOVETAIL: Set single gauge to $\frac{1}{8}$ inch, and square round the ends of pieces prepared in last lesson; mark for dovetails; form dovetails, using $\frac{1}{2}$ -inch and $\frac{1}{4}$ -inch chisel, and cutting from both sides.

LESSON XXVI.

DOVETAIL (completed:) Finish up and fit dovetails; glue together and clamp with hand screws, taking care to bring the joints up, and to keep the box square, using try-square at every corner.

LESSON XXVII.

SMOOTHING AND SAND-PAPERING: Saw out two pieces $5\frac{1}{2}$ inches x 9 inches, for top and bottom of box; square up edges and smooth faces; smooth sides and ends of box with block plane; sand-paper clean, and smooth; level off top and bottom edges.

LESSON XXVIII.

NAILING: Nail on top and bottom pieces, with $1\frac{1}{2}$ -inch No. 16 wire nails, being careful to drive the nails straight and in the centre of thickness of sides and ends.

MOULDING: Get piece 40 inches long, $\frac{1}{2}$ inch square, from stock; square to $\frac{1}{2}$ inch, and quarter round with jack plane, making a moulding for bottom of box; get from stock piece 40 inches long, $\frac{1}{2}$ inch square; square to $\frac{1}{2}$ inch, and quarter round, making a moulding for top of box.

LESSON XXIX.

MITREING: Saw moulding, made in last lesson, in lengths to fit box (mitreing the corners in mitre box,) and glue them on the box.

LESSON XXX.

BEVELLING: Plane the edges of the top and bottom of box with block

plane, to an equal projection all around; mark the top, with single gauge, 1 inch on, and $\frac{1}{2}$ inch down; bevel with $1\frac{1}{2}$ inch chisel and finish with block plane, and sand-paper block.

LESSON XXXI.

CHISELLING: Cut a hole exactly in centre of top, $1\frac{1}{2}$ inches long, $\frac{1}{2}$ inch wide, using $\frac{1}{2}$ -inch chisel.

LESSON XXXII.

Finish up the box, with mouldings, etc., according to individual fancy.

SEWING COURSE OF THE SPRINGFIELD (MASS.) SCHOOLS.

GRADE IV.—First term: Fold, baste, back stitch, overcast, fold and hem (make narrow hem.) Second term: Wide hem, sew selvage over and over, sew folded cloth over and over, stitch, make a bag. Third term: Review previous work; make a pillow-slip.

GRADE V.—First term: Gather, lay gathers, baste gathers, baste gathers onto band, make an apron. Second term: Stich a seam, fold, fell, cut-stitch, cross-stitch, feather-stitch. Third term: Darning, patching, sew on buttons, cut a straight piece and join, cut a bias piece and join.

GRADE VI.—First term: Button-hole stitch, cutting button-hole, overcast, bar and work. Second term: Cut patterns, put on cloth, mark and cut. Third term: Cut by pattern.

COURSE IN COOKING OF THE WASHINGTON (D. C.) SCHOOLS.

FIRST YEAR (SEVENTH GRADE.)

BOILING: A.—Talk about cooking, to discover what it is, how it affects food-materials, and what is needful for cooking; heat, natural and artificial; fuel, wood, charcoal, coal, gas; give directions for making a fire and make one.

Teach boiling by means of experiments: (a) Heat a cup of water, noting the change in temperature from time to time; note simmering and boiling. (b) Compare, by boiling, fresh and salt water with respect to density; experiment with eggs and blocks of wood; discover that it takes longer to boil salt water than it does to boil fresh water. (c) Put a piece of fresh meat into boiling water for a short time; note the result to meat and water; cut the meat and note the result; show the effect to meat and water of cold water on meat (this requires some time;) cut the meat and note the result; boil the water. (d) Break an egg into boiling water and another into cold water; note the results; boil the cold water with the egg; draw inferences; hot water hardens albumen; to retain the nutriment in the article boiled put the article into boiling water and boil; to have nutriment mix with the water put the article into cold water and boil. (e) Make beef tea; have the meat prepared for the first class, after which let each class prepare meat for the succeeding one.

Boil meat to prepare the same for food. Boil meat for broth. Make jellied soup stock. Teach which parts of meat (beef, mutton, and lamb) are used for soups. Show economy of making stock. Teach the pupils how to distinguish between fresh and stale meats (appearance, smell, etc.)—Poach eggs.

B.—Experiment with salted and smoked meats: Put salted meat into cold water; then show that the water is salty by tasting it and by testing its density. Whence comes the salt? What is it, where found, how prepared for market.

C.—Experiment with starch and flour: (a) Cut a potato into thin slices and soak it in cold water. Pour off the water; show that starch is a fine powder found in grains and vegetables; show starch cells in potato; microscope. (b) Pour cold water over some starch, mix, and let it stand for a short time; stir again and pour on boiling

water; stir and note the result. (c) Pour boiling water over dry starch; stir and note the result. (d) Make like experiments with flour; draw conclusions. (e) Dip a potato into boiling water; note the result. (f) Pour boiling water over oatmeal; note the result; draw conclusion.

Make blanc mange. Cornstarch; from what and how obtained, how prepared, substitutes. Make a roux; plain, egg, and caper sauces. Boil rice and potatoes and mash; boil beets, onions and squash. Give directions for preparing and cooking other vegetables. Make either vegetable soup or celery puree. Boil oatmeal (cracked wheat, cerealine.) Boil rice and make rice custard. Boil coffee and cocoa, steep tea. Coffee, cocoa, tea; from what and how obtained; properties and value of each.

D.—Utensils used in boiling. An intelligent study of the materials from which the utensils are made.

STEWING: Experiment with tough meat and vegetable acids, such as lemon-juice and vinegar. Compare tender and tough meat before and after soaking in the acid. Show where in the animal tough pieces of meat are found. Explain why they contain so much nutriment and show their value as food. Make a beef stew. Make an Irish stew without dumplings. Braise a calf's heart or smother a piece of beef. Haricot mutton. Stew fruit (apples, prunes, etc.) Make "bubble and squeak." Pepper, butter, substitute, from what and how obtained; use and value in cooking.

BROILING.—Broil a steak (beef or veal): (a) Compare results obtained with those obtained by putting meat in boiling water. (b) Names and positions of best steaks; broil chops, mutton, lamb, or pork. (c) Positions of chops. (d) Lard and oleomargarine; from what and how made; use; value; how to select different kinds of meat by appearance; toast bread; utensils used in broiling.

BAKING.—Experiment with yeast, soda, cream of tartar, sour milk, and baking powder: (a) Mix soda and cream of tartar with cold water; show the presence of carbonic acid gas (lighted taper.) (b) Pour water over baking powder; show the presence of gas. (c) Mix soda with sour milk; show the presence of gas and that the milk is sweet. (d) Mix baking powder or soda and cream of tartar with flour; moisten and make a dough; put one-half into a hot oven immediately; allow the other half to remain exposed to the air for a short time, then put it into the oven; note the difference; cause of difference, draw conclusions. (e) Make yeast; talk about the yeast plant or germ; from what and how obtained; proper temperature necessary to the growth; what is caused by the growing? Fermentation; microscope; show presence of carbonic acid gas in yeast; mix yeast with a little flour and note the result.

Make white bread and rolls with potato yeast: (a) Kneading, length of time, motion, etc. (b) Compressed yeast. (c) Flour; from what and how obtained; kinds; properties and value of each; process; make biscuits (baking powder); make muffins (soda and cream of tartar); make corn-bread (soda and sour milk); make Graham gems.

Roast meat: (a) Compare the appearance of roast meat with boiled meat. (b) Best pieces for roasting. (c) Basting. (d) Solid and rolled roasts. Give, incidentally, the arrangement of oven dampers; kind of fire necessary for baking, and proper temperature of the oven.

SECOND YEAR (EIGHTH GRADE.)

BOILING: Review facts learned about boiling and obtain a definition. Boil mutton: (a) for the broth, (b) for the meat; make caper sauce. Boil fish; make egg sauce (Note.—Give directions for selecting and cleaning fish.) Raising, slaughtering of animals, and packing of meat; means of preserving; principal cities for this industry; markets. Boil corned beef and cabbage; boil cauliflower; make egg sauce; make apple dumplings and sugar sauce; make roly poly pudding and sauce; make soft custard; make salad dressing, make potato salad.

STEWING: Oysters: (a) stewed, (b) scalloped; chowder; make a fricassee

of beef or stew beef with carrots; make a white stew and a pot-pie.

BROILING: Broil a shad, a herring, or any other fresh fish. Broil a salted mackerel or any other salted fish. Broil a smoked fish. Broil a slice of ham. Broil oysters.

BAKING.—Review facts learned about carbonic acid gas, fermentation, and heat for baking; make white bread, Graham bread, and brown bread; stuff and bake a fish.

Make cake: (a) Cookies: Spices; from where and how obtained; their properties and use in cooking. (b) Ginger snaps. (c) Dover cake (Note.—Citron; from what and how made.) (d) Sponge cake. (e) Jelly cake.

Following is a list of cities in the United States whose public schools have incorporated manual training in some of its forms into their curricula as reported to the commissioner of education for 1888.

Oakland, Cal.
New Haven, Conn.
Washington, D. C.
Beardstown, Ill.
Moline, Ill.
Peoria, Ill.
Galesburg, Ill.
Peru, Ill.
Humboldt, Iowa.
Oscalooza, Iowa.
Boston, Mass.
Springfield, Mass.
Winchester, Mass.
Minneapolis, Minn.
Stillwater, Minn.
Concord, N. H.

Hoboken, N. J.
Mont Clair, N. J.
Paterson, N. J.
Albany, N. Y.
Jamestown, N. Y.
Newburg, N. Y.
New York, N. Y.
Cleveland, Ohio.
Meadville, Pa.
New Brighton, Pa.
Pittsburg, Pa.
Tidioute, Pa.
Knoxville, Tenn.
Eau Claire, Wis.
La Crosse, Wis.

To which must be added St. Paul and Duluth for this state. No doubt some schools have introduced the system since, but a special inquiry of so extensive a nature could not profitably be made now. The list does not include private schools for manual training work, trade schools, and technical schools for professional work. The distinction between manual training in primary, grammar, and high school grades, intended to give a general knowledge of delineation and construction, and technical schools, whether public or private, for the purpose of teaching specific trades, professions, or occupations, must be kept in mind in reading this report. We are dealing with the question only as far as it touches the training of the child who cannot avail himself of the higher or special instruction; which class includes the great mass of poor men's children in the public schools.

A brief history of the four manual training schools that have been established in Minnesota will be interesting in closing this chapter.

THE ST. PAUL MANUAL TRAINING SCHOOL.

BY PROF. C. A. BENNETT, PRINCIPAL.

The growth of the St. Paul Manual Training School, like that of many other institutions in our state, has been very rapid. As soon as the board of education were thoroughly convinced that the manual training idea was a good one they decided to give it a fair trial.

In September, 1887, at an expense of about \$500.00, a small room in the basement of the high school building was fitted up with benches and tools enough to accommodate twelve pupils in a class. Into this room came pupils from the high school to receive instruction in manual training. The boys came twice a week, and received instruction in joinery, carpentry, wood-turning, and practical drawing. The girls came once a week, and took lessons in clay modeling, wood-carving, and other light wood work. This was optional with the pupils, yet the classes were well filled throughout the year, there being over one hundred names on the roll. At the close of the year an exhibition of work was given and all visitors seemed well pleased with what they saw.

About this time the subject of manual training was discussed by the members of the board of education, and it was finally decided to adopt the plan of Maj. B. F. Wright, which was to establish a separate manual training school that should give instruction in five lines of study simultaneously, viz., science, language, mathematics, drawing, and shop work. The board appropriated \$2,000 for an equipment. The school was to be located in the new annex to the high school building.

In September, 1888, the school opened with five teachers. The work of organizing and systematizing was greatly retarded because the rooms were not then completed; but before the first four months had passed the success of the school was assured, and when the new class came in, at the middle of the year, it was plain to be seen that larger and more convenient quarters must soon be furnished. A new building was proposed and plans were soon made for one to be placed in the rear of the Madison School on a lot then belonging to the board of education. Work on the foundation was begun early in the summer, but, owing to unexpected delays, the building was not completed until February; so the school was obliged to begin its second year in the high school annex. The new building contains twenty rooms besides the office, viz., four shops, two laboratories, ten class rooms, two drawing-rooms, an assembly hall, and a library and museum. The total cost of the building and equipment is approximately \$75,000.

Moving into the new building in February gave a new impulse to all departments, and also increased the number of pupils. During the last school year there have been about 110 pupils in the school. The greatest number at any one time was 96. Four pupils were graduated and were given diplomas at the end of the year. At the present time there are eight regular instructors in the school, including the principal. Latin, French, and German are taught by the branch high school teachers, who come to the building once a day. Any boy who has completed the work of the seventh grade of the grammar schools may enter the manual training school. It is a part of the public school system of the city, and therefore no tuition is charged to those residing in the city, but to all others the nominal sum of \$20.00 per year is charged. There are two courses of study in the school. The business course is designed to give a symmetrical and practical education to a boy who, for any reason, does not intend to pursue a higher course of study. The preparatory course is designed for boys who wish to enter polytechnic and engineering schools, and for those who wish to complete their preparatory training in the Central high school, and then pursue a classical course in college.

THE MINNEAPOLIS MANUAL TRAINING SCHOOL.

BY PROF. W. F. DECKER, SUPERVISOR.

Manual training in the Minneapolis public schools was begun in the

month of February, 1887. Benches and tools were at first provided for thirty pupils, working in three sections daily, and the places were quickly taken. Each boy was provided with a set of edge tools, which he was required to keep in order and to lock up in drawers, provided for the purpose, when not in use. Besides the individual sets, bench tools were provided, to be used in common by all the boys in the three divisions working at a single bench. A few other tools were provided for general use. Each boy was given a number corresponding to his place at the bench, and was held responsible for the care of his tools. The same plan with regard to places and tools was carried out in the matter of industrial drawing. Each boy received instruction in the use of wood working tools during two consecutive recitation periods of forty minutes each, and drawing during one period.

The first lessons in wood working were in the use of the saws. Each boy was required to saw a number of pieces to line, very carefully, merely for the practice, and they were then required to saw some pieces to be afterwards used in construction. Following the sawing exercises, were exercises in planing, driving nails, boring, chisel work, etc., each of the fundamental operations being thoroughly taught before attempts were made at construction.

The progress made in the elementary work was rapid and substantial, and after a few weeks' practice the boys were able to do good work in making various kinds of joints and simple articles of construction, such as benches, boxes, ironing boards, frames, etc. Each of the above-mentioned articles was required to be made from accurate dimensions given on working drawings made in the drawing room adjoining the workshop, and under the direction of the same instructor.

The school year 1887-88 opened with good prospects for this department. During the summer vacation a large new wing to the Central high school building was begun, with a light and airy basement, well adapted for manual training rooms. An additional instructor was employed, and as soon as the new rooms were completed, the department was placed on a new footing, with circumstances more favorable to success. During this school year printed lesson sheets, giving an outline of each lesson, with a working drawing showing the exact dimensions of the stock required, and of the finished product, were introduced, and proved of great value. During this year eighty-four pupils received instruction in wood working and industrial drawing.

At the beginning of the school year 1888-9, manual training was introduced into the three branch high schools, and five instructors were employed, including two at the Central school. This new feature of school work was received with great favor in the branch schools, a very large proportion of all the boys in the high school classes choosing the work. When it was introduced at the north side high school, every boy in the entering class took this course. Over two hundred boys were enrolled during the year in the four schools. Wood carving and turning were added to the course at the Central high school, and another instructor was employed about the middle of the year. The school year 1889-90, (the last covered by this report,) saw metal work introduced at the Central high school, as the only new feature, with much interest displayed all along the line. Manual training may now be considered fully established as a feature of school work in Minneapolis, with an encouraging outlook for the future.

INDUSTRIAL EDUCATION IN THE STILLWATER PUBLIC SCHOOLS.

BY PROF. FRANK T. WILSON, SUPERINTENDENT PUBLIC SCHOOLS.

Six years ago the board of education provided the necessary benches and tools for a small class of boys. Only wood work was attempted. No attempt was made to create any special enthusiasm, but to see what could be done in a small high school. It proved so satisfactory that in the new high school building, erected two years ago, a room was especially designed and equipped for shop work. Twenty pupils can be accommo-

dated at one time. From six to twelve boys have taken the work each year. The instruction was given by one of the high school teachers. Four years ago industrial work was attempted in the lower grades. Each year it grew until the following course was substantially carried out, with gratifying results, during the past school year. The expense of the material used was about seventy-five dollars. The number of schools is thirty-five, with a total enrollment of 1,749.

SPECIAL COURSE—DRAWING AND MANUAL TRAINING.

Drawing is the vital and all-essential element underlying and permeating the entire scheme from beginning to end. Pupils are expected to learn to sketch objects, to construct and understand working drawings, to create and comprehend decorative designs.

The spirit of hand training is the skillful execution by the pupil in some suitable material of his conception as embodied in the working, drawing, or design. The great lesson taught throughout the entire course is that fundamental principle of all mechanical trades, of working exactly to the line. Friday afternoon of each week is given to the subject. Daily work is done in drawing. The supervisor of drawing has charge of the work.

FIRST YEAR.

Representation of solids. Original designing, using solids and tablets. Paper and lead pencil used. Clay modelling, paper folding, stick laying, mat weaving, tablet laying, sewing.

SECOND YEAR.

Continue work of the first year.

THIRD YEAR.

Book I. Prang's shorter course. Supplement with kindred work. Clay moulding with special reference to designs from geometrical solids and plant forms. Modeling leaves, fruit, etc. Paper construction, sewing.

FOURTH YEAR.

Book II. Prang's shorter course. Leaf forms studied and drawn. Supplementary work in the manual paper construction, carving, sewing.

FIFTH YEAR.

Book III. Prang's shorter course. Designing, paper construction, carving, sewing.

SIXTH YEAR.

Book IV. Prang's shorter course. Special attention to construction, representation, and decoration.

Paper construction, carving, sewing.

SEVENTH YEAR.

Book V. Prang's shorter course. Historic ornament studied. Special attention to construction.

Paper construction, wood carving, sewing.

EIGHTH YEAR.

Blank drawing book. Use of mechanical instruments taught. Representation continued. Constructive design studied with reference to position, purpose, and beauty of form.

Paper construction, wood carving, sewing.

NINTH YEAR.

Blank drawing book. Working drawings full size and to a scale. Rectangular objects drawn in all positions. Symmetry, growth and proportion in plant forms and historic ornament studied.

HIGH SCHOOL.

Mechanical drawing and shop work in wood.

An observation of the practice of industrial work will warrant the assertion that the following benefits result from the continuous pursuit of this branch of work in the public schools:

1. Enthusiasm and interest in school life is increased.
2. Improved attendance is thereby obtained.
3. Better work is done in the regular branches by reason of this interest, enthusiasm, and improved attendance.
4. It develops and calls out latent, special capabilities in pupils deficient in ordinary school work.
5. Familiarity with geometric forms and their application to decorative purposes is acquired.
6. The power to create and appreciate decorative designs is stimulated.
7. Pupils are enabled to construct, interpret, and apply working or mechanical drawings.
8. The foundation of all good mechanical work is laid in the habit of working exactly to the line; a valuable preparation for any trade.
9. The senses of touch and sight are cultivated.
10. Habits of patience, carefulness, exactness, and neatness are promoted.
11. Powers of thought and judgment are developed.
12. A training is supplied the pupil which will prove to be of inestimable value in after life.

THE DULUTH MANUAL TRAINING SCHOOL.

By PROF. ROBERT E. DENFIELD, SUPERINTENDENT OF PUBLIC SCHOOLS.

The manual training, strictly speaking, was introduced last October, and has been continued since then in connection with our High School. Our *course* in this line of training is graded for four years, two in wood and two in iron. This being the first year, the number of pupils taking advantage of it is quite small, not exceeding 25. When our new Central High School is completed we hope to get better results, as we shall then have suitable quarters for the work.

CHAPTER IV.

WORKINGMEN'S EARNINGS AND EXPENSES.

Few items are more often compared than the earnings and expenses of workingmen. The ratio between income and necessary outlay evidences the prosperity or adversity of the family. There is but little difficulty in arriving at a close approximation to the earnings, as most workmen keep a record of their time; but it is well-nigh impossible to determine the necessary outlay. Both the standard of living and the number and ages of persons constituting a family vary so much that no proper basis of comparison can be found. We have, therefore, given the earnings in the different occupations, and the prices current, at retail, of such articles of consumption as constitute the bulk of a workman's expenses. In some lines, such as dry goods and house furnishings, the variation in prices and quality is so great that nothing definite could be had from a list.

In deducing averages we have used rules somewhat different from those usually employed.

We find the average number of months employed by dividing the men into classes according to the months worked, multiplying the number of men in each class by the corresponding number of months, adding the products together, and dividing by the whole number of men.

We find the average annual earnings by dividing the men into classes according to rates paid, subdividing these classes according to months employed, multiplying the number of men in each sub-class by the annual earnings of one man of that class, adding these products together, and dividing by the whole number of men.

The average rate paid is found by reducing the average months worked to days, and dividing the average annual earnings by this number.

It is probable that in an ordinary canvass, for the purpose of interviewing workingmen as to their earnings, a greater proportion of the better paid and more steadily employed men would be met with. The floating workmen would be more

likely to escape the canvasser. An undue proportion of indoor or shop workers would naturally be found—men who have positions all the year around. From these causes the average number of months employed and the rate per day is, probably, rather high than low; 21.5 per cent. of the men reporting work over 11.5 months, while the average for all is 10.54 months. There is an average idleness of 1.46 months per year. In other words, the 6,441 men reporting are idle on an average 12.17 per cent. of the time, which is equivalent to the idleness of 784 men all the time.

At the time of this writing the census returns, showing the population of the state, are not in; but any one, by applying the ratio .1217 to the census returns of men engaged in gainful occupations in this state, can make a calculation of the number of men in the state who would be constantly idle, if the whole amount of lost time were concentrated upon a given number of men, so as to leave them wholly idle.*

It will be noticed that the various subdivisions of occupations, especially in establishments where much machinery is used, are not given. It was found that the number of these subdivisions was so great that to print them would extend the tables to an unreasonable length, as the men could not then be grouped according to rates paid, but would have to be again subdivided according to subdivision of labor. This would require the repetition of the same rate from two to ten times, and the printing of names, representing minute subdivisions of factory work, which would be well nigh meaningless to all but those having a special knowledge of the details of such work. It was, therefore, decided to group the men according to rates paid. In some occupations the apprentice or helper can not be distinguished by any sharp line of demarcation from the journeyman. In others, particularly factory work, no single occupation at which men work can be called a trade. The rates paid will run from \$3.00 or upwards to \$1.00 or less, and will depend more upon the intelligence, judgment, and general capacity of the individual than upon his claim to being the possessor of a trade. There are efficient men who never learned a trade, and who command more pay for their general capacity than many men who claim to know a trade. Probably the best criterion of relative wages in the different occupations is not the pay received by men of standard or exceptional ability, but the general average for each particular industry, as compared with the others.

There is, doubtless, a disposition on the part of some men to overstate the rates of wages received, and to call themselves tradesmen when they really are not. There is a clear tendency, in many lines, to eliminate the old-fashioned tradesman altogether, and to substitute mere routine workers of little skill in the subordinate places, and men of superior managerial capacity in the principal places. A gentleman connected with one of the great wagon manufactories of the country told me that there were but two men in his establishment, aside from foremen, who received more than \$1.15 per day. They had ceased to employ what is known as skilled labor in their factory.

A separate table had to be made for lumbermen and loggers, owing to the fact that the class of men who work in the saw-mills in summer usually go into the woods in winter; so that, although the men remain the same, the occupation changes. Neither the mill work nor logging work alone represents the full year's work. For the purpose of estimating the earnings of this class of men we add together the summer earnings of lumbermen and the winter earnings of loggers, giving a total average earnings for the year of \$474.43. Adding the months employed in the same way we find an average 9.9 months. This would give an average daily wage, while employed, of \$1.84, and an average daily wage of \$1.52 for 312 days. This estimate includes foremen, and the value of board furnished in winter is added to the rates of wages for logging.

EARNINGS.

TABLE 1.—Showing Number of Men Reporting, Number of Months Employed, Amount of Wages Deducted for Short Hours in Winter, Total Annual Earnings, Average Number of Months Employed, Average Rate per day while Employed, Average Annual Earnings, and Average Rate per day for 312 days—all Occupations.

FOREMEN.	Number of men.	Number of months employed.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Blacksmiths.....	4	43	.....	\$4,131.40	10.7	\$3.71	\$1,032.85	\$3.31
Bricklayers.....	13	138	\$940	17,624.00	10.6	4.92	1,355.99	4.36
Butchers.....	2	23	.....	2,093.00	11.5	3.50	1,046.50	3.36
Boilermakers.....	2	24	166	2,423.60	12.0	3.68	1,211.80	3.88
Bakers.....	7	84	.....	5,351.80	12.0	2.45	764.40	2.45
Bookbinders.....	9	107	.....	9,460.10	12.0	3.37	1,051.12	3.37
Brewerymen.....	7	84	.....	8,424.00	12.0	3.66	1,203.43	3.66
Barbers.....	5	60	.....	4,196.40	12.0	3.49	1,059.28	3.29
Cigar Makers.....	2	24	.....	2,028.00	12.0	3.33	1,014.00	3.26
Cornice Makers.....	3	36	.....	3,120.00	12.0	3.33	1,040.00	3.33
Cabinet Makers.....	8	94	441	6,750.60	11.7	2.78	843.82	2.70
Carpenters.....	11	128	619	9,670.50	11.6	2.91	879.14	2.82
Collar Makers.....	1	12	.....	936.00	12.0	3.00	936.00	3.00
Car Repairers.....	1	12	60	876.00	12.0	2.81	876.00	2.81
Furniture Factories.....	4	43	213	3,109.80	12.0	2.49	777.45	2.49
Furriers.....	6	71	.....	6,838.00	11.8	3.71	1,139.67	3.65
Gas and Steam Fitters.....	10	112	480	8,256.00	11.2	2.84	825.60	2.84
Horse Shoers.....	11	124	.....	9,672.00	11.3	2.99	879.27	2.82
Harness Makers.....	2	24	120	1,752.00	12.0	2.81	876.00	2.81
Iron Moulders.....	12	130	.....	11,481.60	11.6	3.17	956.80	3.07
Lithographers.....	3	36	.....	4,414.80	12.0	4.72	1,471.00	4.72
Lathers.....	3	31	97	2,178.00	10.3	2.71	726.00	2.33
Marble Cutters.....	5	60	320	4,672.00	12.0	2.99	934.40	2.99
Machinists.....	9	105	581	9,032.50	11.7	3.30	1,003.61	3.22
Men in Potteries.....	4	48	.....	3,541.20	12.0	2.84	885.90	2.84
Pattern Makers.....	4	48	250	3,650.00	12.0	2.92	912.50	2.92
Printers.....	16	163	.....	19,203.60	10.2	4.53	1,200.22	3.85
Painters.....	8	77	208	5,328.70	9.6	2.67	666.09	2.13
Stone Masons.....	36	285	420	25,680.70	7.9	3.47	713.05	2.29
Tinners.....	5	58	255	4,016.80	11.6	2.66	808.36	2.57
Tile Layers.....	2	24	120	1,752.00	12.0	2.81	876.00	2.81
Tailors.....	4	38	.....	3,536.90	9.5	3.58	884.97	2.84
Upholsterers.....	3	36	.....	2,340.00	12.0	2.50	780.00	2.50
Wagon Makers.....	2	19	.....	1,410.60	9.5	2.86	705.25	2.26
	224	2,415	\$5,290	\$208,943.50	10.78	\$3.33	\$932.78	\$2.99

TABLE 2.—Showing Number of Men Reporting, Number of Months Employed, Amount of Wages Deducted for Short Hours in Winter, Total Annual Earnings, Average Number of Months Employed, Average Rate per day, while Employed, Average Annual Earnings, and Average Rate per day for 312 days—all Occupations.

JOURNYMEN.	Number of men.	Number of months employed.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Blacksmiths.....	100	1,124	\$3,914	\$66,687.10	11.2	\$2.29	\$666.87	\$2.14
Blacksmiths' helpers.....	53	563	1,356	24,411.60	11.2	1.52	441.73	1.42
Bricklayers.....	164	1,354	3,435	125,895.50	8.3	3.56	767.66	2.46
Boiler Makers.....	80	961	3,309	59,733.20	11.0	2.35	671.16	2.15
Bakers.....	56	652		27,719.91	11.6	1.64	495.00	1.56
Bookbinders.....	55	658		36,537.80	12.0	2.13	664.32	2.13
Brewery operatives.....	154	1,826		86,040.50	11.9	1.81	558.70	1.79
Barbers.....	74	866		47,421.70	11.7	2.11	640.85	2.05
Butchers.....	20	235		12,030.20	11.7	1.98	601.51	1.93
Clerks.....	155	1,852		85,500.70	11.9	1.78	552.20	1.77
Coopers.....	75	677		37,306.10	9.0	2.13	497.41	1.59
Cigar Packers.....	6	69		5,382.00	11.5	3.00	897.00	2.87
Cigar Makers.....	118	1,243		61,898.20	10.5	1.92	524.56	1.66
Cornice Makers.....	51	535	1,837	34,078.10	10.9	2.36	668.20	2.14
Cabinet Makers.....	61	680	2,020	34,797.30	11.1	1.98	570.45	1.83
Car Repairers.....	30	418	965	17,952.30	10.7	1.65	460.32	1.48
Carpenters..... [tives]	728	7,542	19,222	396,634.60	10.4	2.01	544.83	1.75
Creanery pkg opera-	27	318	589	8,071.20	11.8	1.08	332.27	1.08
Dockmen.....	26	285	674	12,263.50	11.0	1.65	472.83	1.53
Farm laborers.....	59	708		21,234.64	12.0	1.16	360.93	1.16
Furriers.....	24	261		13,189.80	10.9	1.94	549.57	1.76
Flour mill operatives.....	493	5,248		282,608.30	10.6	2.08	573.24	1.84
Furn'r & operatives.....	42	470	1,070	17,939.90	11.2	1.47	427.14	1.37
Gas and Steam Fitters.....	36	384	1,193	23,318.00	10.7	2.33	647.72	2.08
Head Sta. Engineers.....	11	126		11,738.20	11.5	3.57	1,067.11	3.43
Horseshoers.....	120	1,318	3,300	69,315.40	10.2	2.08	537.33	1.72
Horse-collar Makers.....	36	418	1,218	19,539.20	11.6	1.90	541.92	1.74
Harness Makers.....	51	586	1,423	26,002.70	11.5	1.76	527.50	1.69
Iron Moulders.....	60	578	1,456	34,144.00	9.6	2.28	553.07	1.83
Laborers.....	804	7,261	9,134	279,134.50	9.0	1.48	347.18	1.11
Lathers.....	72	649	1,179	34,584.00	9.0	2.03	490.33	1.54
Lithographers.....	20	232		15,437.20	11.6	2.27	674.12	2.16
Machinists.....	237	2,064	9,896	159,767.40	11.4	2.04	636.19	2.04
Marble Cutters.....	25	299	1,081	15,904.60	12.0	2.25	700.61	2.25
Miners.....	539	6,468		377,620.20	9.3	1.69	406.69	1.30
Mortar mixers.....	29	271	400	11,794.00	8.3	3.35	722.98	2.32
Men with teams.....	37	307	899	26,749.40	10.8	2.81	788.87	2.53
Printers.....	203	2,205		190,140.60	10.2	3.23	855.49	2.74
Plasterers.....	114	1,165	4,328	97,526.00	10.2	2.09	553.95	1.78
Painters.....	187	1,908	5,031	103,580.20	10.2	2.87	798.30	2.56
Plumbers.....	96	1,025	3,893	78,638.50	10.7	1.63	451.20	1.46
Planing-mill operatv.....	108	1,156	2,653	48,053.20	10.7	2.22	685.06	2.13
Pattern Makers.....	18	207	743	11,671.00	11.5	1.64	496.55	1.56
Pottery operatives.....	64	732		31,138.90	11.4	2.47	693.06	2.22
Stationary Engineers.....	25	289		17,326.40	10.8	1.79	498.33	1.60
Stationary Firemen.....	24	258		11,960.00	10.7	2.05	570.46	1.83
Shoemakers.....	192	2,087	5,764	109,529.10	10.7	2.52	511.86	1.64
Stone Masons.....	65	509	482	33,271.20	7.8	3.72	782.67	2.51
Stonecutters.....	81	653	798	63,306.00	8.1	2.50	708.45	2.27
Switchmen.....	54	588		38,256.40	10.0	2.27	709.50	2.27
Salesmen.....	35	419		24,832.60	12.0	2.44	761.71	2.44
Ship Builders.....	115	1,380	5,625	87,507.01	12.0	2.40	655.17	2.10
Ship Carpenters.....	32	335	1,024	20,045.50	10.5	2.09	602.77	1.93
Tinsmiths.....	106	1,179	3,428	64,808.70	11.1	1.52	376.74	1.21
Teamsters.....	39	370	629	14,699.30	9.5	2.50	590.80	1.89
Tailors.....	54	490		31,903.30	9.1	2.47	539.53	1.73
Tile Layers.....	18	152	370	9,711.50	8.4	1.88	587.60	1.88
Upholsterers.....	15	197		8,814.00	12.0	1.94	606.17	1.94
Waiters.....	21	252		12,720.60	12.0	1.90	549.17	1.76
Wagon makers.....	20	223	632	10,983.50	11.1			
	6,441	67,918	\$105,020	\$3,709,268.14	10.54	\$2.10	\$35.5.88	\$1.85

TABLE 3.—Showing Number of Men Reporting, Number of Months Employed, Rate per day, Loss by Short Hours in Winter, Total Annual Earnings, Average Number of Months Employed, Average Rate per day, While Employed, Average Annual Earnings, and Average Rate per day for 312 Days.

BLACKSMITHS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$4.60	.....	\$1,435.20	.....	.....	.....	.....
".....	1	7	3.50	.....	637.00	.....	.....	.....	.....
".....	1	12	3.38	.....	1,045.20	.....	.....	.....	.....
".....	1	12	8.25	.....	1,014.00	.....	.....	.....	.....
	4	43	.....	.....	\$4,131.40	10.7	\$3.71	\$1,032.85	\$3.31
Journeyman.....	4	12	\$3.00	\$240	\$3,504.00	.....	.....	.....	.....
".....	6	12	2.90	348	5,080.80	.....	.....	.....	.....
".....	6	12	2.75	330	4,818.00	.....	.....	.....	.....
".....	1	11	2.75	41	745.50	.....	.....	.....	.....
".....	4	10	2.75	110	2,750.00	.....	.....	.....	.....
".....	2	9	2.75	27	1,260.00	.....	.....	.....	.....
".....	1	11	2.65	40	717.00	.....	.....	.....	.....
".....	18	12	2.50	900	13,140.00	.....	.....	.....	.....
".....	4	11	2.50	150	2,710.00	.....	.....	.....	.....
".....	10	10	2.50	250	6,250.00	.....	.....	.....	.....
".....	1	8	2.50	.....	520.00	.....	.....	.....	.....
".....	1	12	2.40	48	700.80	.....	.....	.....	.....
".....	1	11	2.40	96	680.40	.....	.....	.....	.....
".....	10	12	2.25	450	6,570.00	.....	.....	.....	.....
".....	2	11	2.25	67	1,220.00	.....	.....	.....	.....
".....	1	10	2.25	23	562.00	.....	.....	.....	.....
".....	2	9	2.25	22	1,031.00	.....	.....	.....	.....
".....	1	8	2.35	12	537.80	.....	.....	.....	.....
".....	1	8	2.35	.....	488.80	.....	.....	.....	.....
".....	17	12	2.00	680	9,928.00	.....	.....	.....	.....
".....	2	11	2.00	60	1,080.00	.....	.....	.....	.....
".....	3	10	2.00	60	1,500.00	.....	.....	.....	.....
".....	2	9	2.00	20	916.00	.....	.....	.....	.....
	100	1,124	.....	\$3,914	\$66,687.10	11.2	\$2.29	\$666.87	\$2.14
Helpers.....	1	12	\$1.85	\$ 37	\$540.20	.....	.....	.....	.....
".....	2	9	1.85	18	847.80	.....	.....	.....	.....
".....	1	8	1.85	.....	384.80	.....	.....	.....	.....
".....	1	7	1.85	.....	336.70	.....	.....	.....	.....
".....	13	12	1.75	455	6,643.00	.....	.....	.....	.....
".....	6	11	1.75	158	2,845.00	.....	.....	.....	.....
".....	4	10	1.75	70	1,750.00	.....	.....	.....	.....
".....	1	9	1.75	9	400.50	.....	.....	.....	.....
".....	3	12	1.65	90	1,445.40	.....	.....	.....	.....
".....	1	12	1.60	32	467.20	.....	.....	.....	.....
".....	1	10	1.60	16	400.00	.....	.....	.....	.....
".....	8	12	1.50	240	3,504.00	.....	.....	.....	.....
".....	4	11	1.50	90	1,626.00	.....	.....	.....	.....
".....	2	12	1.25	50	730.00	.....	.....	.....	.....
".....	2	11	1.25	37	678.00	.....	.....	.....	.....
".....	3	11	1.00	45	813.00	.....	.....	.....	.....
	53	593	.....	\$1,356	\$23,411.60	11.2	\$1.52	\$441.73	\$1.42

TABLE 3—Continued.

TINSMITHS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$3.00	\$ 60	\$876.00	.....	.....	.....	.....
"	1	12	2.90	58	846.80	.....	.....	.....	.....
"	2	12	2.75	110	1,606.00	.....	.....	.....	.....
"	1	10	2.75	27	688.00	.....	.....	.....	.....
	5	58	.....	\$255	\$4,016.80	11.6	\$2.66	\$603.36	\$2.57
Journeyman.....	14	12	\$2.50	\$700	\$10,920.00	.....	.....	.....	.....
"	9	10	2.50	225	5,850.00	.....	.....	.....	.....
"	4	9	2.50	50	2,340.00	.....	.....	.....	.....
"	1	8	2.50	.....	520.00	.....	.....	.....	.....
"	7	12	2.25	315	4,914.00	.....	.....	.....	.....
"	1	11	2.25	34	645.50	.....	.....	.....	.....
"	5	10	2.25	112	2,925.00	.....	.....	.....	.....
"	1	9	2.25	11	528.50	.....	.....	.....	.....
"	2	8	2.25	.....	936.00	.....	.....	.....	.....
"	20	12	2.00	1160	18,096.00	.....	.....	.....	.....
"	8	11	2.00	240	4,576.00	.....	.....	.....	.....
"	7	10	2.00	140	3,640.00	.....	.....	.....	.....
"	1	9	2.00	10	468.00	.....	.....	.....	.....
"	1	6	1.90	.....	296.40	.....	.....	.....	.....
"	3	12	1.75	105	1,658.00	.....	.....	.....	.....
"	1	11	1.75	26	500.50	.....	.....	.....	.....
"	1	10	1.75	18	455.00	.....	.....	.....	.....
"	2	12	1.65	66	1,029.60	.....	.....	.....	.....
"	1	10	1.65	16	420.00	.....	.....	.....	.....
"	2	12	1.50	60	936.00	.....	.....	.....	.....
"	1	11	1.50	23	429.00	.....	.....	.....	.....
"	1	12	1.35	27	421.20	.....	.....	.....	.....
"	2	12	1.25	50	780.00	.....	.....	.....	.....
"	2	12	1.00	40	624.00	.....	.....	.....	.....
	106	1,179	.....	\$3,428	\$63,803.70	11.1	\$2.09	\$602.77	\$1.93

HORSE COLLAR MAKERS.

Foreman.....	1	12	\$3.00	.....	\$936.00	.....	.....	.....	.....
"	1	12	\$3.00	.....	\$936.00	12.	\$3.00	\$936.00	\$3.00
Journeyman.....	2	12	\$2.70	\$108	\$1,576.80	.....	.....	.....	.....
"	2	12	2.50	100	1,480.00	.....	.....	.....	.....
"	1	12	2.35	47	686.20	.....	.....	.....	.....
"	1	11	2.35	35	637.10	.....	.....	.....	.....
"	1	11	2.25	34	609.50	.....	.....	.....	.....
"	2	12	2.15	86	1,255.60	.....	.....	.....	.....
"	9	12	2.00	360	5,256.00	.....	.....	.....	.....
"	1	10	2.00	20	500.00	.....	.....	.....	.....
"	2	9	2.00	20	916.00	.....	.....	.....	.....
"	1	12	1.75	35	511.00	.....	.....	.....	.....
"	4	12	1.65	132	1,927.20	.....	.....	.....	.....
"	2	11	1.65	40	864.80	.....	.....	.....	.....
"	1	10	1.65	17	412.00	.....	.....	.....	.....
"	5	12	1.50	150	2,190.00	.....	.....	.....	.....
"	1	12	1.25	25	365.00	.....	.....	.....	.....
"	1	12	1.00	.....	312.00	.....	.....	.....	.....
	38	418	.....	\$1,218	\$19,509.20	11.6	\$1.80	\$541.92	\$1.73

TABLE 3—Continued.

PRINTERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen	1	12	\$6.65		\$2,074.80				
"	1	12	5.85		1,825.20				
"	1	12	5.00		3,120.00				
"	1	10	4.50		1,170.00				
"	1	12	4.15		2,589.60				
"	1	12	4.00		1,248.00				
"	4	10	4.00		4,160.00				
"	1	8	4.00		1,664.00				
"	1	7	4.00		728.00				
"	1	6	4.00		624.00				
	16	163			\$19,203.60	10.2	\$4.53	\$1,200.22	\$3.85
Journeyman	2	12	\$3.75		\$2,340.00				
"	1	9	3.75		877.50				
"	1	8	3.75		780.00				
"	1	12	3.65		1,138.80				
"	8	12	3.50		8,736.00				
"	5	11	3.50		5,005.00				
"	9	10	3.50		8,190.00				
"	2	9	3.50		1,638.00				
"	4	8	3.50		2,912.00				
"	5	7	3.50		3,185.00				
"	4	12	3.35		4,180.80				
"	2	10	3.35		1,742.00				
"	1	8	3.35		696.80				
"	1	7	3.35		609.70				
"	2	12	3.25		2,028.00				
"	1	11	3.25		929.50				
"	4	10	3.25		3,380.00				
"	1	6	3.25		507.00				
"	1	12	3.15		982.80				
"	1	10	3.15		819.00				
"	26	12	3.00		24,336.00				
"	14	11	3.00		12,012.00				
"	4	10	3.00		3,120.00				
"	2	9	3.00		1,404.00				
"	2	8	3.00		1,248.00				
"	1	7	3.00		546.00				
"	1	6	3.00		936.00				
"	11	12	2.85		9,781.20				
"	2	11	2.85		1,630.20				
"	2	10	2.85		1,482.00				
"	1	12	2.75		858.00				
"	1	11	2.75		786.50				
"	1	10	2.75		715.00				
"	21	12	2.65		17,362.80				
"	3	11	2.65		2,273.70				
"	2	10	2.65		1,378.00				
"	6	9	2.65		3,720.00				
"	2	8	2.65		1,102.40				
"	4	12	2.50		3,120.00				
"	4	11	2.50		2,860.00				
"	1	10	2.50		650.00				
"	1	12	2.35		733.20				
"	1	11	2.35		672.10				
"	1	10	2.35		611.00				
"	1	9	2.35		549.90				
"	3	12	2.15		2,012.40				
"	1	11	2.15		614.90				
"	2	12	2.00		1,248.00				
"	4	11	2.00		2,888.00				
"	2	10	2.00		1,040.00				
"	1	8	2.00		416.00				
"	1	12	1.65		514.80				
"	3	11	1.65		1,415.70				

TABLE 3—Continued.

PRINTERS—Continued.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Journeyman	2	12	\$1.50	.....	\$336.00	.....	.....	.....	.....
"	4	12	1.35	.....	1,084.80	.....	.....	.....	.....
"	1	11	1.35	.....	386.10	.....	.....	.....	.....
"	5	12	1.15	.....	1,794.00	.....	.....	.....	.....
"	2	12	1.00	.....	624.00	.....	.....	.....	.....
	203	2,205	.....	.....	\$160,140.60	10.8	\$2.81	\$788.87	\$2.53

PLASTERERS.

Journeyman	6	12	\$4.00	\$480	\$7,008.00	.....	.....	.....	.....
"	2	11	4.00	120	2,168.00	.....	.....	.....	.....
"	2	10	4.00	80	2,000.00	.....	.....	.....	.....
"	2	9	4.00	40	1,832.00	.....	.....	.....	.....
"	2	8	4.00	.....	1,664.00	.....	.....	.....	.....
"	21	12	3.50	1,470	21,482.00	.....	.....	.....	.....
"	12	11	3.50	630	11,382.00	.....	.....	.....	.....
"	8	10	3.50	280	7,000.00	.....	.....	.....	.....
"	3	9	3.50	52	2,405.00	.....	.....	.....	.....
"	14	8	3.50	.....	10,192.00	.....	.....	.....	.....
"	6	12	3.00	360	5,256.00	.....	.....	.....	.....
"	5	11	3.00	225	4,085.00	.....	.....	.....	.....
"	12	10	3.00	360	9,000.00	.....	.....	.....	.....
"	3	9	3.00	45	2,061.00	.....	.....	.....	.....
"	11	8	3.00	.....	6,864.00	.....	.....	.....	.....
"	2	12	2.75	110	1,606.00	.....	.....	.....	.....
"	1	5	2.75	.....	357.00	.....	.....	.....	.....
"	1	12	2.50	50	730.00	.....	.....	.....	.....
"	1	11	1.75	26	474.00	.....	.....	.....	.....
	114	1,165	.....	\$4,328	\$67,526.00	10.	\$3.23	\$855.49	\$2.74

SHIP CARPENTERS.

Journeyman	3	12	\$2.75	\$165	\$2,400.00	.....	.....	.....	.....
"	3	11	2.75	124	2,235.50	.....	.....	.....	.....
"	9	12	2.50	450	6,570.00	.....	.....	.....	.....
"	4	10	2.50	100	2,500.00	.....	.....	.....	.....
"	4	9	2.50	50	2,250.00	.....	.....	.....	.....
"	4	8	2.50	.....	2,080.00	.....	.....	.....	.....
"	2	7	2.50	.....	910.00	.....	.....	.....	.....
"	3	12	2.25	135	1,971.00	.....	.....	.....	.....
	32	335	.....	\$1,024	\$20,985.50	10.5	\$2.40	\$655.17	\$2.10

DOCKMEN.

Dockmen	10	12	\$1.75	\$350	\$5,110.00	.....	.....	.....	.....
"	9	11	1.75	236	4,268.50	.....	.....	.....	.....
"	3	10	1.75	53	1,312.00	.....	.....	.....	.....
"	4	9	1.75	35	1,603.00	.....	.....	.....	.....
	26	285	.....	\$674	\$12,293.50	11.	\$1.65	\$472.83	\$1.52

TABLE 3—Continued.

BRICKLAYERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	3	13	\$6.00	\$240	\$3,504.00				
"	7	13	5.00	700	10,220.00				
"	8	8	5.00		2,080.00				
"	3	7	5.00		1,820.00				
	13	138	.....	\$940	\$17,624.00	10.6	\$4.92	\$1,355.69	\$4.35
Journeyman.....	1	6	\$4.75		\$741.00				
"	1	13	4.50	\$90	1,314.00				
"	2	8	4.50		1,872.00				
"	2	7	4.50		1,638.00				
"	6	6	4.50		4,212.00				
"	4	9	4.05	81	3,709.80				
"	1	8	4.05		842.40				
"	1	7	4.05		737.10				
"	1	5	4.05		526.50				
"	16	13	4.00	1,280	18,688.00				
"	7	8	4.00		5,824.00				
"	13	7	4.00		8,736.00				
"	6	6	4.00		3,744.00				
"	1	7	4.00		520.00				
"	1	7	3.65		664.30				
"	17	13	3.60	1,224	17,870.40				
"	5	8	3.60		3,744.00				
"	15	7	3.60		9,828.00				
"	15	6	3.60		8,424.00				
"	5	5	3.60		2,540.00				
"	4	13	3.50	280	4,088.00				
"	3	8	3.50		2,184.00				
"	2	7	3.50		1,274.00				
"	9	6	3.50		4,914.00				
"	1	8	3.35		696.80				
"	1	8	3.35		696.70				
"	1	8	3.00		7,008.00				
"	8	12	3.00	4 80	5,120.00				
"	5	8	3.00		3,276.00				
"	6	7	3.00		2,340.00				
"	5	6	3.00		409.50				
"	1	7	2.25						
	164	1,354	.....	\$3,435	\$125,895.50	8.3	\$3.56	\$767.66	\$2.46

CLERKS.

Clerks.....	1	12	\$3.25		\$1,014.00				
"	7	12	2.50		5,460.00				
"	1	11	2.50		715.00				
"	2	12	2.35		1,466.40				
"	9	12	2.30		6,458.40				
"	11	12	2.10		7,207.20				
"	7	12	2.00		4,368.00				
"	10	12	1.90		5,928.00				
"	1	11	1.90		543.40				
"	1	12	1.85		577.20				
"	17	12	1.75		9,282.00				
"	1	10	1.75		455.00				
"	1	9	1.75		409.50				
"	43	12	1.65		22,136.40				
"	21	12	1.55		10,155.60				
"	7	12	1.50		3,276.00				
"	1	11	1.50		429.00				
"	2	12	1.40		873.60				
"	10	12	1.35		4,212.00				
"	2	12	1.00		624.00				
	155	1,852	.....		\$85,590.70	11.9	\$1.78	\$552.20	\$1.77

TABLE 3—Continued.

PAINTERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$2.85	\$57	\$632.20				
"	2	12	2.75	110	1,606.00				
"	1	10	2.75	27	688.00				
"	1	9	2.75	14	629.50				
"	1	8	2.75		572.00				
"	2	7	2.75		1,001.00				
	8	77	.....	\$208	\$5,328.70	9.6	\$2.67	\$666.09	\$2.13
Journeyman.....	6	12	\$2.85	\$477	\$4,483.80				
"	1	11	2.60	39	704.80				
"	1	10	2.60	26	650.00				
"	23	12	2.50	1,150	16,790.00				
"	10	11	2.50	375	6,775.00				
"	13	10	2.50	325	8,125.00				
"	7	9	2.50	87	4,008.00				
"	4	8	2.50		2,080.00				
"	7	7	2.50		910.00				
"	6	6	2.50		2,340.00				
"	12	12	2.25	540	7,884.00				
"	3	11	2.25	101	1,829.50				
"	4	10	2.25	90	2,250.00				
"	6	9	2.25	68	3,091.00				
"	4	8	2.25		1,872.00				
"	26	12	2.00	1,040	15,184.00				
"	2	7	2.00	80	1,064.00				
"	11	10	2.00	140	3,500.00				
"	9	9	2.00	110	5,098.00				
"	11	8	2.00		3,744.00				
"	2	7	2.00		4,004.00				
"	6	6	2.00		624.00				
"	1	12	1.75	35	511.00				
"	11	11	1.75	79	922.00				
"	1	10	1.75	18	437.00				
"	4	12	1.60	120	1,752.00				
"	1	11	1.50	23	406.00				
"	1	10	1.40	14	350.00				
"	1	7	1.40		254.80				
"	3	12	1.25	75	1,045.00				
"	1	10	1.25	13	312.00				
"	1	9	1.25	6	288.50				
"	1	12	1.00	20	292.00				
	187	1,908	.....	\$5,031	\$103,589.20	10.2	\$2.09	\$553.95	\$1.78

SHIP BUILDERS.

Journeyman.....	6	12	\$5.00	\$600	\$8,760.00				
"	14	12	4.00	1,120	16,352.00				
"	3	12	3.50	210	3,060.00				
"	1	12	3.25	65	949.00				
"	14	12	3.00	840	12,264.00				
"	14	12	2.75	700	11,312.00				
"	8	12	2.50	480	5,840.00				
"	4	12	2.25	180	2,828.00				
"	20	12	2.00	800	11,680.00				
"	16	12	1.75	560	8,176.00				
"	15	12	1.50	450	6,570.00				
	115	1,380	.....	\$5,925	\$87,597.00	12.	\$2.44	\$761.71	\$2.44

TABLE 3—Continued.

CIGAR MAKERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$3.35	.....	\$1,045.20	.....	.....	.....	.....
".....	1	12	3.15	.....	982.80	.....	.....	.....	.....
	2	24	.....	.....	\$2,028.00	12.	\$3.25	\$1,014.00	\$3.25
Packers.....	4	12	\$3.00	.....	\$3,744.00	.....	.....	.....	.....
".....	1	11	3.00	.....	858.00	.....	.....	.....	.....
".....	1	10	3.00	.....	780.00	.....	.....	.....	.....
	6	69	.....	.....	\$5,382.00	11.5	\$3.00	\$897.00	\$2.87
Journeyman.....	5	12	\$2.65	.....	\$4,134.00	.....	.....	.....	.....
".....	1	11	2.65	.....	757.90	.....	.....	.....	.....
".....	2	10	2.65	.....	1,378.00	.....	.....	.....	.....
".....	3	12	2.50	.....	2,340.00	.....	.....	.....	.....
".....	3	11	2.50	.....	2,145.00	.....	.....	.....	.....
".....	6	10	2.50	.....	3,900.00	.....	.....	.....	.....
".....	2	12	2.35	.....	1,466.40	.....	.....	.....	.....
".....	2	11	2.35	.....	1,344.20	.....	.....	.....	.....
".....	1	10	2.35	.....	611.00	.....	.....	.....	.....
".....	1	12	2.25	.....	702.00	.....	.....	.....	.....
".....	1	9	2.25	.....	526.50	.....	.....	.....	.....
".....	1	8	2.25	.....	468.00	.....	.....	.....	.....
".....	4	12	2.15	.....	2,683.20	.....	.....	.....	.....
".....	1	11	2.15	.....	614.90	.....	.....	.....	.....
".....	2	10	2.15	.....	1,118.00	.....	.....	.....	.....
".....	1	11	2.10	.....	600.60	.....	.....	.....	.....
".....	1	9	2.10	.....	491.40	.....	.....	.....	.....
".....	7	12	2.00	.....	4,368.00	.....	.....	.....	.....
".....	5	11	2.00	.....	2,860.00	.....	.....	.....	.....
".....	4	10	2.00	.....	2,080.00	.....	.....	.....	.....
".....	2	9	2.00	.....	936.00	.....	.....	.....	.....
".....	1	12	1.90	.....	592.80	.....	.....	.....	.....
".....	1	11	1.70	.....	543.40	.....	.....	.....	.....
".....	2	12	1.85	.....	1,154.40	.....	.....	.....	.....
".....	1	8	1.85	.....	384.80	.....	.....	.....	.....
".....	1	7	1.85	.....	336.70	.....	.....	.....	.....
".....	13	12	1.70	.....	6,895.20	.....	.....	.....	.....
".....	8	11	1.70	.....	3,889.60	.....	.....	.....	.....
".....	2	10	1.70	.....	884.00	.....	.....	.....	.....
".....	4	9	1.70	.....	1,591.20	.....	.....	.....	.....
".....	2	8	1.70	.....	707.20	.....	.....	.....	.....
".....	1	6	1.70	.....	265.20	.....	.....	.....	.....
".....	7	12	1.50	.....	3,276.00	.....	.....	.....	.....
".....	3	9	1.50	.....	1,053.00	.....	.....	.....	.....
".....	2	8	1.50	.....	624.00	.....	.....	.....	.....
".....	1	10	1.35	.....	351.00	.....	.....	.....	.....
".....	4	9	1.35	.....	1,263.60	.....	.....	.....	.....
".....	3	8	1.35	.....	842.40	.....	.....	.....	.....
".....	2	9	1.15	.....	538.20	.....	.....	.....	.....
".....	2	8	1.15	.....	478.40	.....	.....	.....	.....
".....	1	10	1.00	.....	260.00	.....	.....	.....	.....
".....	1	9	1.00	.....	234.00	.....	.....	.....	.....
".....	1	8	1.00	.....	208.00	.....	.....	.....	.....
	118	1,243	.....	.....	\$61,898.20	10.5	\$1.92	\$524.56	\$1.68

TABLE 3—Continued.

COOPERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Journeyman	2	7	\$3.00		\$1,092.00				
".....	1	7	2.85		518.70				
".....	1	12	2.65		826.80				
".....	1	8	2.65		551.20				
".....	2	8	2.65		984.60				
".....	1	12	2.50		780.00				
".....	1	10	2.50		650.00				
".....	1	9	2.50		585.00				
".....	1	8	2.50		3,120.00				
".....	6	7	2.50		2,730.00				
".....	1	6	2.50		390.00				
".....	1	10	2.35		611.00				
".....	1	8	2.35		2,932.80				
".....	1	7	2.35		427.70				
".....	1	12	2.25		702.00				
".....	1	10	2.25		585.00				
".....	2	9	2.25		1,053.00				
".....	1	12	2.15		670.80				
".....	3	12	2.00		1,872.00				
".....	3	11	2.00		1,716.00				
".....	5	10	2.00		2,600.00				
".....	6	8	2.00		2,496.00				
".....	3	7	2.00		1,092.00				
".....	1	8	1.85		384.80				
".....	1	6	1.85		288.60				
".....	6	12	1.75		3,276.00				
".....	3	11	1.75		1,501.50				
".....	1	10	4.75		455.00				
".....	1	8	1.65		343.20				
".....	1	6	1.65		257.40				
".....	1	12	1.50		468.00				
".....	2	10	1.50		780.00				
".....	1	9	1.50		351.00				
".....	1	6	1.50		234.00				
Total	75	677			\$37,306.10	9.	\$2.13	\$497.41	\$1.50

BOOK BINDERS.

Foremen	1	12	\$1.65		\$1,138.80				
".....	1	12	3.50		1,092.00				
".....	6	12	3.25		6,271.20				
".....	1	11	3.25		958.10				
Total	9	107			\$9,480.10	12.	\$3.37	\$1,051.12	\$3.37
Journeyman	1	12	\$3.20		\$608.40				
".....	1	11	3.15		900.90				
".....	11	12	3.00		10,296.00				
".....	7	12	2.85		6,224.40				
".....	1	11	2.75		786.50				
".....	5	12	2.50		3,900.00				
".....	3	12	2.35		2,199.60				
".....	2	12	2.15		1,341.60				
".....	8	12	1.65		1,544.40				
".....	3	12	1.50		1,404.00				
".....	8	12	1.35		2,948.40				
".....	7	12	1.25		1,170.00				
".....	3	12	1.15		2,511.60				
".....	7	12	1.00		312.00				
Total	55	658			\$36,537.80	12.	\$2.13	\$664.32	\$2.13

TABLE 3—Continued.

LABORERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Laborers.....	1	11	\$2.30	\$ 34	\$623.80				
"	1	12	2.10	42	613.20				
"	12	12	2.00	80	1,168.00				
"	1	10	2.00	20	500.00				
"	12	7	2.00		728.00				
"	1	6	2.00		312.00				
"	12	12	1.90	76	1,109.60				
"	1	11	1.90	28	515.40				
"	15	12	1.85	555	8,103.00				
"	2	7	1.85		673.40				
"	3	6	1.85		865.80				
"	25	12	1.75	875	12,775.00				
"	5	11	1.75	131	2,371.50				
"	10	10	1.75	175	4,375.00				
"	6	9	1.75	53	2,404.00				
"	21	8	1.75		7,644.00				
"	18	7	1.75		5,753.00				
"	43	6	1.75		11,739.00				
"	2	12	1.65	66	963.60				
"	14	8	1.65		4,804.80				
"	20	7	1.65		6,006.00				
"	5	6	1.65		1,287.00				
"	22	12	1.60	64	934.40				
"	3	11	1.60	72	1,300.80				
"	1	8	1.60		532.80				
"	3	7	1.60		873.60				
"	1	6	1.60		249.60				
"	1	9	1.55	8	354.70				
"	137	12	1.50	4,110	60,006.00				
"	25	11	1.50	563	10,162.00				
"	56	10	1.50	840	21,000.00				
"	45	9	1.50		15,458.00				
"	96	8	1.50	337	29,952.00				
"	71	7	1.50		19,383.00				
"	56	6	1.50		13,104.00				
"	2	5	1.50		390.00				
"	1	3	1.50		117.00				
"	2	6	1.45		452.40				
"	1	12	1.40	28	408.80				
"	2	8	1.40		582.40				
"	4	12	1.35	108	1,576.80				
"	1	9	1.35	7	308.90				
"	1	7	1.35		245.70				
"	10	12	1.25	475	6,935.00				
"	5	11	1.25	94	1,693.50				
"	14	10	1.25	175	4,375.00				
"	10	9	1.25	63	2,862.00				
"	9	8	1.25		2,340.00				
"	18	7	1.25		4,095.00				
"	5	6	1.25		975.00				
"	1	12	1.10	22	321.20				
"	3	10	1.10	33	825.00				
"	1	8	1.10		228.80				
"	2	12	1.00		624.00				
"	1	11	1.00		286.00				
"	2	10	1.00		520.00				
"	1	8	1.00		208.00				
"	1	7	1.00		182.00				
"	1	6	1.00		156.00				
	804	7,261	.....	\$9,134	\$279,134.50	9.	\$1.48	\$347.18	\$1.11

TABLE 3—Continued.

BOILERMAKERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$4.30	\$86	\$1,255.80				
".....	1	12	4.00	80	1,168.00				
	2	24	.....	\$166	\$2,423.60	12	\$3.88	\$1,211.80	\$3.88
Journeyman.....	8	12	\$3.10	\$496	\$7,241.60				
".....	1	10	3.10	31	775.00				
".....	1	9	3.10	16	710.40				
".....	1	8	3.10	.....	644.80				
".....	1	12	3.00	300	4,380.00				
".....	1	11	3.00	135	2,439.00				
".....	1	11	3.00	90	2,250.00				
".....	1	11	2.95	44	799.70				
".....	1	10	2.95	88	2,213.00				
".....	1	9	2.95	15	675.30				
".....	2	11	2.90	67	1,571.80				
".....	1	10	2.90	29	725.00				
".....	1	12	2.85	57	832.20				
".....	1	10	2.85	28	713.00				
".....	10	12	2.75	550	8,030.00				
".....	3	11	2.75	124	2,235.50				
".....	1	10	2.75	27	688.00				
".....	2	9	2.75	27	1,260.00				
".....	2	7	2.75	.....	1,001.00				
".....	1	12	2.60	52	1,750.20				
".....	1	12	2.40	50	730.00				
".....	2	11	2.50	75	1,355.00				
".....	2	10	2.50	50	1,250.00				
".....	1	9	2.50	12	573.00				
".....	2	8	2.50	.....	1,040.00				
".....	1	12	2.40	48	700.80				
".....	1	12	2.35	47	686.20				
".....	1	12	2.25	45	657.00				
".....	6	12	2.00	240	3,504.00				
".....	6	12	1.75	210	3,066.00				
".....	2	11	1.75	53	948.00				
".....	2	10	1.75	35	875.00				
".....	1	9	1.75	9	400.50				
".....	1	8	1.75	.....	364.00				
".....	1	12	1.60	32	467.20				
".....	3	12	1.50	90	1,314.00				
".....	2	12	1.35	54	788.40				
".....	1	11	1.35	20	366.10				
".....	1	12	1.25	25	365.00				
".....	1	11	1.25	19	338.50				
	89	981	.....	\$3,309	\$59,733.20	11.	\$2.35	\$671.16	\$2.15

UPHOLSTERERS.

Foremen.....	3	12	\$2.50	.....	\$2,340.00	.....	.....	.....	.....
	3	36	.....	.....	\$2,340.00	12.	\$2.50	\$780.00	\$2.50
Journeyman.....	5	12	\$2.25	.....	\$3,510.00	.....	.....	.....	.....
".....	3	12	2.00	.....	1,872.00	.....	.....	.....	.....
".....	4	12	1.75	.....	2,184.00	.....	.....	.....	.....
".....	1	12	1.50	.....	468.00	.....	.....	.....	.....
".....	2	12	1.25	.....	780.00	.....	.....	.....	.....
	15	180	.....	.....	\$8,814.00	12.	\$1.88	\$587.60	\$1.88

TABLE 3—Continued.

SHOEMAKERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Journeyman	1	11	\$4.15	\$62	\$1,124.90				
"	1	12	4.00	80	1,168.00				
"	1	12	4.00	.....	832.00				
"	2	13	3.50	140	2,044.00				
"	4	13	3.35	268	3,912.80				
"	3	11	3.15	47	853.90				
"	3	12	3.00	180	2,628.00				
"	4	11	3.00	180	3,252.00				
"	10	10	3.00	30	750.00				
"	3	9	3.00	45	2,061.00				
"	1	6	3.00	.....	624.00				
"	1	11	3.00	.....	468.00				
"	4	11	2.85	228	3,032.40				
"	10	10	2.85	28	713.00				
"	2	12	2.75	110	1,606.00				
"	1	11	2.75	41	745.50				
"	1	10	2.75	27	688.00				
"	1	9	2.75	14	629.50				
"	4	12	2.65	212	3,095.20				
"	12	12	2.50	600	8,760.00				
"	7	11	2.50	262	4,743.00				
"	7	10	2.50	175	4,375.00				
"	6	9	2.50	75	3,435.00				
"	2	8	2.50	.....	1,040.00				
"	6	12	2.35	282	4,117.20				
"	1	10	2.35	24	587.00				
"	1	9	2.35	12	537.90				
"	1	8	2.35	.....	488.80				
"	1	12	2.25	45	657.00				
"	3	11	2.25	101	1,829.50				
"	3	10	2.15	64	1,613.00				
"	12	12	2.00	480	7,008.00				
"	6	11	2.00	180	3,252.00				
"	13	10	2.00	260	6,500.00				
"	4	9	2.00	40	1,832.00				
"	1	8	2.00	.....	416.00				
"	1	2	2.00	.....	104.00				
"	1	11	1.95	29	528.70				
"	4	12	1.85	148	2,160.80				
"	5	11	1.85	139	2,506.50				
"	2	10	1.85	37	925.00				
"	1	10	1.75	17	438.00				
"	5	12	1.65	165	2,409.00				
"	3	11	1.65	74	1,341.70				
"	7	10	1.65	116	2,887.00				
"	2	9	1.65	16	756.20				
"	9	12	1.50	270	3,942.00				
"	2	11	1.50	45	813.00				
"	10	10	1.50	150	3,750.00				
"	1	9	1.50	7	344.00				
"	1	12	1.35	27	394.20				
"	2	11	1.35	40	732.20				
"	3	10	1.35	40	1,013.00				
"	1	9	1.35	7	308.90				
"	2	12	1.25	50	730.00				
"	1	9	1.25	6	286.50				
"	1	8	1.25	.....	260.00				
"	1	12	1.15	23	335.80				
"	1	10	1.15	11	288.00				
"	2	12	1.00	40	584.00				
"	1	11	1.00	15	271.00				
	192	2,057	.....	\$5,764	\$109,529.10	10.7	\$2.05	\$570.46	\$1.83

TABLE 3—Continued.

LATHERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	9	\$3.00	\$ 15	\$687.00				
".....	1	12	2.75	55	803.00				
".....	1	10	2.75	27	688.00				
	3	31	.....	\$ 97	\$2,178.00	10.3	\$2.71	\$726.00	\$2.33
Journeyman.....	6	12	\$2.50	\$300	4,380.00				
".....	4	10	2.50	100	2,500.00				
".....	4	7	2.50		1,820.00				
".....	4	6	2.50		780.00				
".....	1	12	2.35	45	657.00				
".....	2	11	2.35	68	1,219.00				
".....	3	10	2.35	45	1,125.00				
".....	9	9	2.35	11	515.50				
".....	1	7	2.35		409.50				
".....	13	12	2.00	530	7,592.00				
".....	2	10	2.00	40	1,000.00				
".....	2	9	2.00	20	916.00				
".....	13	8	2.00		5,408.00				
".....	8	7	2.00		2,912.00				
".....	8	6	2.00		2,496.00				
".....	1	12	1.50	30	438.00				
".....	1	6	1.50		234.00				
".....	1	7	1.00		182.00				
	72	649	.....	\$1,179	\$34,584.00	9.	\$2.05	\$490.33	\$1.54

BREWERY OPERATIVES.

Foremen.....	1	12	\$4.15	.....	\$1,294.80				
".....	5	12	3.85	.....	6,006.00				
".....	1	12	3.60	.....	1,123.20				
	7	64	.....	.....	\$8,424.00	12.	\$3.86	\$1,203.43	\$3.86
Journeyman.....	2	12	\$2.90	.....	\$1,809.60				
".....	1	12	2.85	.....	889.20				
".....	2	12	2.75	.....	1,716.00				
".....	13	12	2.50	.....	10,140.00				
".....	1	12	2.35	.....	733.20				
".....	4	12	2.30	.....	2,870.40				
".....	5	12	2.10	.....	3,276.00				
".....	20	12	2.00	.....	12,480.00				
".....	12	12	1.90	.....	7,113.60				
".....	34	12	1.75	.....	18,564.00				
".....	2	11	1.75	.....	1,001.00				
".....	2	12	1.65	.....	1,029.60				
".....	15	12	1.55	.....	7,254.00				
".....	1	10	1.55	.....	403.00				
".....	1	6	1.55	.....	241.80				
".....	16	12	1.50	.....	7,488.00				
".....	1	9	1.50	.....	351.00				
".....	1	8	1.50	.....	312.00				
".....	12	12	1.35	.....	5,054.40				
".....	1	11	1.35	.....	386.10				
".....	5	12	1.25	.....	1,950.00				
".....	1	8	1.25	.....	260.00				
".....	2	12	1.15	.....	717.60				
	154	1,826	.....	.....	\$86,040.50	11.9	\$1.81	\$558.70	\$1.79

TABLE 3—Continued.

PLUMBERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Journeyman	1	12	\$4.00	\$ 80	\$1,168.00				
"	18	12	3.50	1,260	18,396.00				
"	3	11	3.50	157	2,846.00				
"	9	10	3.50	315	7,875.00				
"	8	9	3.50	140	6,412.00				
"	2	8	3.50		1,456.00				
"	10	12	3.00	600	8,760.00				
"	5	11	3.00	210	4,080.00				
"	8	10	3.00	240	6,000.00				
"	5	9	3.00	75	3,435.00				
"	1	8	3.00		624.00				
"	2	7	3.00		1,092.00				
"	1	11	2.75	41	745.50				
"	1	8	2.75		572.00				
"	4	12	2.50	200	2,920.00				
"	2	11	2.50	75	1,355.00				
"	1	10	2.50	25	625.00				
"	2	9	2.50	25	1,145.00				
"	2	8	2.50		1,040.00				
"	1	12	2.25	45	657.00				
"	6	12	2.00	240	3,504.00				
"	1	11	2.00	30	542.00				
"	1	12	1.75	35	511.00				
"	2	12	1.50	60	876.00				
	96	1,025	.....	\$3,853	\$76,636.50	10.7	\$2.87	\$798.30	\$2.56

MEN WITH TEAMS.

Men with teams....	5	12	\$4.00	\$400	\$5,840.00				
"	2	8	4.00		1,664.00				
"	3	7	4.00		2,184.00				
"	4	12	3.50	280	4,088.00				
"	1	8	3.50		728.00				
"	2	7	3.50		1,274.00				
"	4	6	3.50		2,184.00				
"	1	5	3.50		455.00				
"	1	4	3.50		364.00				
"	2	12	3.00	120	1,752.00				
"	1	11	3.00	45	813.00				
"	4	7	3.00		2,184.00				
"	2	6	3.00		936.00				
"	3	5	3.00		1,170.00				
"	1	12	2.70	54	788.40				
"	1	5	2.50		325.00				
	37	307	.....	\$899	\$26,749.40	8.3	\$3.35	\$722.96	\$2.32

CREAMERY PACKAGE OPERATIVES.

Journeyman	1	12	\$1.50	\$30	\$438.00				
"	1	12	1.40	28	408.80				
"	1	9	1.35	7	308.90				
"	11	12	1.25	275	4,015.00				
"	1	11	1.25	19	338.50				
"	10	12	1.00	200	2,920.00				
"	2	11	1.00	30	542.00				
	27	318	.....	\$589	\$8,971.20	11.8	\$1.08	\$332.27	\$1.16

TABLE 3—Continued.

CARPENTERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen..	1	12	\$3.50	\$70	\$1,022.00				
"	1	12	3.25	65	949.00				
"	1	11	3.25	49	860.50				
"	5	12	3.00	300	4,380.00				
"	3	11	3.00	135	2,439.00				
Journeyman	11	128	.....	\$619	\$9,670.50	11.6	\$2.91	\$879.14	\$2.82
"	6	12	\$2.75	\$330	\$4,818.00				
"	1	11	2.75	41	745.50				
"	1	10	2.75	55	1,375.00				
"	1	9	2.75	14	629.50				
"	2	12	2.60	208	1,414.40				
"	56	12	2.50	2,800	40,880.00				
"	18	11	2.50	875	12,105.00				
"	18	10	2.50	450	11,250.00				
"	12	9	2.50	150	6,870.00				
"	7	8	2.50	.....	3,640.00				
"	4	7	2.50	.....	1,820.00				
"	1	6	2.50	.....	390.00				
"	107	12	2.25	4,815	70,299.00				
"	21	11	2.25	709	12,804.50				
"	46	10	2.25	1,035	25,875.00				
"	21	9	2.25	236	10,820.00				
"	32	8	2.25	.....	14,967.00				
"	7	7	2.25	.....	2,866.50				
"	6	6	2.25	.....	2,106.00				
"	2	5	2.25	.....	585.00				
"	96	12	2.00	3,840	56,064.00				
"	13	11	2.00	300	7,046.00				
"	32	10	2.00	640	16,000.00				
"	29	9	2.00	290	13,282.00				
"	37	8	2.00	.....	15,302.00				
"	17	7	2.00	.....	6,188.00				
"	3	6	2.00	.....	936.00				
"	1	4	2.00	.....	208.00				
"	4	12	1.75	1,435	20,951.00				
"	1	11	1.75	105	1,897.00				
"	8	10	1.75	140	3,500.00				
"	10	9	1.75	88	4,007.00				
"	9	8	1.75	.....	7,280.00				
"	4	7	1.75	.....	2,866.50				
"	4	6	1.75	.....	1,092.00				
"	1	12	1.65	33	481.80				
"	1	11	1.65	25	446.90				
"	4	12	1.60	128	1,868.80				
"	1	7	1.60	.....	291.20				
"	14	12	1.50	420	6,132.00				
"	1	11	1.50	22	407.00				
"	1	10	1.50	15	375.00				
"	1	9	1.50	8	343.00				
"	2	8	1.50	.....	624.00				
"	1	7	1.50	.....	273.00				
"	5	12	1.25	125	1,825.00				
"	1	6	1.25	.....	195.00				
"	1	12	1.00	.....	312.00				
	728	7,542	.....	\$19,222	\$306,634.69	10.4	\$2.01	\$544.83	\$1.75

TABLE 3—Continued.

MACHINISTS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$4.60	\$ 92	\$1,343.20	.....	.....	.....	.....
".....	1	11	4.15	62	1,124.90	.....	.....	.....	.....
".....	1	12	3.85	77	1,124.20	.....	.....	.....	.....
".....	1	10	3.25	33	812.00	.....	.....	.....	.....
".....	3	12	3.20	192	2,803.20	.....	.....	.....	.....
".....	1	12	3.15	63	919.80	.....	.....	.....	.....
".....	1	12	3.10	62	905.20	.....	.....	.....	.....
	9	105	.....	\$581	\$9,032.50	11.7	\$3.30	\$1,003.61	\$3.22
Journeyman.....	30	12	\$3.00	\$1,800	\$25,280.00	.....	.....	.....	.....
".....	3	11	3.00	135	2,439.00	.....	.....	.....	.....
".....	3	10	3.00	90	2,250.00	.....	.....	.....	.....
".....	1	9	3.00	15	687.00	.....	.....	.....	.....
".....	1	12	2.95	59	861.40	.....	.....	.....	.....
".....	6	12	2.90	328	5,100.80	.....	.....	.....	.....
".....	2	11	2.90	87	1,571.80	.....	.....	.....	.....
".....	1	9	2.90	14	664.60	.....	.....	.....	.....
".....	4	12	2.80	224	3,270.40	.....	.....	.....	.....
".....	4	11	2.80	168	3,035.20	.....	.....	.....	.....
".....	21	12	2.75	1,155	16,863.00	.....	.....	.....	.....
".....	3	11	2.75	124	2,235.50	.....	.....	.....	.....
".....	7	10	2.75	192	4,813.00	.....	.....	.....	.....
".....	6	9	2.75	83	3,778.00	.....	.....	.....	.....
".....	2	8	2.75	.....	1,144.00	.....	.....	.....	.....
".....	1	12	2.65	53	773.80	.....	.....	.....	.....
".....	1	12	2.60	52	759.20	.....	.....	.....	.....
".....	1	11	2.60	39	704.60	.....	.....	.....	.....
".....	1	10	2.60	26	650.00	.....	.....	.....	.....
".....	1	8	2.60	.....	540.80	.....	.....	.....	.....
".....	36	12	2.50	1,800	26,280.00	.....	.....	.....	.....
".....	3	11	2.50	113	2,032.00	.....	.....	.....	.....
".....	3	10	2.50	75	1,875.00	.....	.....	.....	.....
".....	4	9	2.50	50	2,290.00	.....	.....	.....	.....
".....	1	12	2.40	48	700.80	.....	.....	.....	.....
".....	1	11	2.40	36	650.40	.....	.....	.....	.....
".....	2	10	2.40	48	1,200.00	.....	.....	.....	.....
".....	4	12	2.35	188	2,744.80	.....	.....	.....	.....
".....	10	12	2.25	450	6,570.00	.....	.....	.....	.....
".....	4	11	2.25	135	2,439.00	.....	.....	.....	.....
".....	3	10	2.25	67	1,688.00	.....	.....	.....	.....
".....	2	9	2.25	22	1,031.00	.....	.....	.....	.....
".....	1	11	2.20	33	596.20	.....	.....	.....	.....
".....	1	9	2.20	11	503.80	.....	.....	.....	.....
".....	19	12	2.00	760	11,096.00	.....	.....	.....	.....
".....	3	11	2.00	90	1,626.00	.....	.....	.....	.....
".....	2	10	2.00	40	1,000.00	.....	.....	.....	.....
".....	2	9	2.00	20	916.00	.....	.....	.....	.....
".....	1	7	2.00	.....	364.00	.....	.....	.....	.....
".....	13	12	1.75	455	6,643.00	.....	.....	.....	.....
".....	2	11	1.75	52	949.00	.....	.....	.....	.....
".....	3	10	1.75	52	1,313.00	.....	.....	.....	.....
".....	1	9	1.75	9	400.50	.....	.....	.....	.....
".....	2	12	1.65	66	963.60	.....	.....	.....	.....
".....	1	12	1.60	32	467.20	.....	.....	.....	.....
".....	13	12	1.50	390	5,614.00	.....	.....	.....	.....
".....	1	8	1.50	.....	312.00	.....	.....	.....	.....
	237	2,694	.....	\$9,686	\$159,767 40	11.4	\$2.27	\$674.12	\$2.16

TABLE 3—Continued.

BAKERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$3.00	.....	\$ 936.00	.....	.....	.....	.....
"	1	12	2.50	.....	780.00	.....	.....	.....	.....
"	4	12	2.85	.....	2,982.80	.....	.....	.....	.....
"	1	12	2.85	.....	702.00	.....	.....	.....	.....
	7	84	.....	.....	\$3,350.80	12.	\$2.45	\$764.40	\$2.45
Journeyman.....	4	12	\$2.00	.....	\$2,496.00	.....	.....	.....	.....
"	3	11	2.00	.....	1,716.00	.....	.....	.....	.....
"	1	10	2.00	.....	520.00	.....	.....	.....	.....
"	13	12	1.85	.....	7,508.60	.....	.....	.....	.....
"	1	10	1.85	.....	481.00	.....	.....	.....	.....
"	1	12	1.75	.....	546.00	.....	.....	.....	.....
"	5	12	1.65	.....	2,574.00	.....	.....	.....	.....
"	1	11	1.65	.....	471.90	.....	.....	.....	.....
"	1	10	1.65	.....	420.00	.....	.....	.....	.....
"	1	12	1.60	.....	490.20	.....	.....	.....	.....
"	7	12	1.50	.....	3,276.00	.....	.....	.....	.....
"	6	11	1.50	.....	2,574.00	.....	.....	.....	.....
"	1	8	1.50	.....	312.00	.....	.....	.....	.....
"	1	12	1.45	.....	452.40	.....	.....	.....	.....
"	6	12	1.35	.....	2,527.20	.....	.....	.....	.....
"	2	12	1.15	.....	717.60	.....	.....	.....	.....
"	2	12	1.00	.....	624.00	.....	.....	.....	.....
	56	662	.....	.....	\$27,719.90	11.6	\$1.64	\$495.00	\$1.59

CABINET MAKERS.

Foremen.....	1	12	\$3.35	\$ 67	\$ 978.20	.....	.....	.....	.....
"	2	12	3.00	120	1,752.00	.....	.....	.....	.....
"	1	10	3.00	30	750.00	.....	.....	.....	.....
"	1	12	2.95	59	861.40	.....	.....	.....	.....
"	3	12	2.75	165	2,400.00	.....	.....	.....	.....
	8	94	.....	\$441	\$6,750.60	11.7	\$2.78	\$643.83	\$2.70
Journeyman.....	12	12	\$2.50	\$600	\$6,780.00	.....	.....	.....	.....
"	6	11	2.50	225	4,065.00	.....	.....	.....	.....
"	3	10	2.50	75	1,875.00	.....	.....	.....	.....
"	1	9	2.50	13	572.00	.....	.....	.....	.....
"	6	12	2.25	270	3,942.00	.....	.....	.....	.....
"	1	11	2.25	34	600.50	.....	.....	.....	.....
"	1	10	2.25	23	562.00	.....	.....	.....	.....
"	5	12	2.00	300	2,920.00	.....	.....	.....	.....
"	2	11	2.00	60	1,084.00	.....	.....	.....	.....
"	4	10	2.00	80	2,000.00	.....	.....	.....	.....
"	2	12	1.75	70	1,022.00	.....	.....	.....	.....
"	2	11	1.75	53	948.00	.....	.....	.....	.....
"	3	10	1.75	52	1,313.00	.....	.....	.....	.....
"	1	12	1.65	33	481.80	.....	.....	.....	.....
"	1	10	1.65	17	412.00	.....	.....	.....	.....
"	2	12	1.50	60	876.00	.....	.....	.....	.....
"	2	11	1.50	45	813.00	.....	.....	.....	.....
"	4	10	1.50	60	1,500.00	.....	.....	.....	.....
"	1	8	1.50	.....	312.00	.....	.....	.....	.....
"	2	12	1.25	50	750.00	.....	.....	.....	.....
	61	660	.....	\$2,020	\$34,797.30	11.1	\$1.98	\$370.45	\$1.83

TABLE 3—Continued.

POTTERY OPERATIVES.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$3.35	.....	\$1,045.20	.....	.....	.....	.....
".....	1	12	3.00	.....	936.00	.....	.....	.....	.....
".....	2	12	2.50	.....	1,560.00	.....	.....	.....	.....
Journeyman.....	4	48	.....	.....	\$3,541.20	12.	\$2.84	\$685.30	\$2.84
".....	1	11	\$2.75	.....	\$786.50	.....	.....	.....	.....
".....	3	12	2.50	.....	2,340.00	.....	.....	.....	.....
".....	1	11	2.50	.....	715.00	.....	.....	.....	.....
".....	3	12	2.25	.....	2,106.00	.....	.....	.....	.....
".....	3	12	2.00	.....	1,872.00	.....	.....	.....	.....
".....	3	11	2.00	.....	1,716.00	.....	.....	.....	.....
".....	2	10	2.00	.....	1,040.00	.....	.....	.....	.....
".....	4	12	1.75	.....	2,184.00	.....	.....	.....	.....
".....	3	11	1.75	.....	1,501.50	.....	.....	.....	.....
".....	1	10	1.75	.....	455.00	.....	.....	.....	.....
".....	6	12	1.50	.....	2,808.00	.....	.....	.....	.....
".....	5	11	1.50	.....	2,145.00	.....	.....	.....	.....
".....	4	10	1.50	.....	1,560.00	.....	.....	.....	.....
".....	9	12	1.40	.....	3,931.20	.....	.....	.....	.....
".....	1	12	1.35	.....	421.20	.....	.....	.....	.....
".....	9	12	1.25	.....	3,510.00	.....	.....	.....	.....
".....	3	11	1.25	.....	1,072.50	.....	.....	.....	.....
".....	3	10	1.25	.....	975.00	.....	.....	.....	.....
	64	732	.....	.....	\$31,138.90	11.4	\$1.64	\$486.55	\$1.56

TILE LAYERS.

Foremen.....	2	12	\$3.00	\$120	\$1,752.00	.....	.....	.....	.....
".....	2	24	.....	\$120	\$1,752.00	12.	\$2.81	\$676.00	\$2.81
Journeyman.....	2	12	\$2.75	\$220	\$1,496.00	.....	.....	.....	.....
".....	1	7	2.75	.....	500.50	.....	.....	.....	.....
".....	3	12	2.50	150	2,190.00	.....	.....	.....	.....
".....	1	10	2.50	.....	650.00	.....	.....	.....	.....
".....	9	7	2.50	.....	4,095.00	.....	.....	.....	.....
".....	2	6	2.50	.....	780.00	.....	.....	.....	.....
	18	152	.....	\$370	\$9,711.50	8.4	\$2.47	\$539.53	\$1.73

BUTCHERS.

Foremen.....	1	12	\$3.50	.....	\$1,092.00	.....	.....	.....	.....
".....	1	11	3.50	.....	1,001.00	.....	.....	.....	.....
".....	2	23	.....	.....	\$2,098.00	11.5	\$3.50	\$1,046.50	\$3.35
Journeyman.....	1	12	\$3.00	.....	\$936.00	.....	.....	.....	.....
".....	3	12	2.50	.....	2,340.00	.....	.....	.....	.....
".....	1	7	2.50	.....	455.00	.....	.....	.....	.....
".....	2	12	2.30	.....	1,435.20	.....	.....	.....	.....
".....	1	12	2.10	.....	655.20	.....	.....	.....	.....
".....	2	12	1.90	.....	1,185.60	.....	.....	.....	.....
".....	5	12	1.75	.....	2,730.00	.....	.....	.....	.....
".....	3	12	1.55	.....	1,450.80	.....	.....	.....	.....
".....	2	12	1.35	.....	842.40	.....	.....	.....	.....
	20	235	.....	.....	\$12,080.20	11.7	\$1.98	\$901.51	\$1.93

TABLE 3—Continued.

CAR REPAIRERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$3.00	\$60	\$676.00	.....	.....	.....	.....
	1	12	.....	\$60	\$676.00	12.	\$2.81	\$676.00	\$2.81
Journeyman.....	1	7	\$2 10	.....	\$382.20	.....	.....	.....	.....
"	5	12	2 00	\$200	2,920.00	.....	.....	.....	.....
"	1	10	2 00	20	500.00	.....	.....	.....	.....
"	1	12	1 90	38	554.80	.....	.....	.....	.....
"	1	9	1 90	10	434.60	.....	.....	.....	.....
"	2	12	1 85	74	1,080.40	.....	.....	.....	.....
"	4	12	1 75	140	2,044.00	.....	.....	.....	.....
"	1	11	1 75	26	474.50	.....	.....	.....	.....
"	3	10	1 75	53	1,313.00	.....	.....	.....	.....
"	2	8	1 75	.....	729.00	.....	.....	.....	.....
"	1	6	1 75	.....	273.00	.....	.....	.....	.....
"	3	12	1 65	99	1,445.40	.....	.....	.....	.....
"	1	10	1 65	16	413.00	.....	.....	.....	.....
"	2	9	1 65	16	756.20	.....	.....	.....	.....
"	1	8	1 65	.....	343.20	.....	.....	.....	.....
"	5	12	1 60	160	2,336.00	.....	.....	.....	.....
"	3	12	1 50	90	1,314.00	.....	.....	.....	.....
"	1	11	1 50	24	406.00	.....	.....	.....	.....
"	1	6	1 50	.....	234.00	.....	.....	.....	.....
	39	418	.....	\$9.65	\$17,952.30	10.7	\$1.65	\$480.32	\$1.48

GAS AND STEAM-FITTERS.

Foremen.....	7	12	\$3.00	\$420	\$6,132.00	.....	.....	.....	.....
"	1	10	3.00	30	750.00	.....	.....	.....	.....
"	2	9	3.00	30	1,374.00	.....	.....	.....	.....
	10	112	.....	\$480	\$8,256.00	11.2	\$2.84	\$825.60	\$2.65
Journeyman.....	3	12	\$2 75	\$165	\$2,409.00	.....	.....	.....	.....
"	3	11	2 75	124	2,235.00	.....	.....	.....	.....
"	3	10	2 75	82	2,063.00	.....	.....	.....	.....
"	1	9	2 75	14	629.50	.....	.....	.....	.....
"	1	8	2 75	.....	572.00	.....	.....	.....	.....
"	1	7	2 75	.....	500.50	.....	.....	.....	.....
"	7	12	2 50	350	5,110.00	.....	.....	.....	.....
"	2	11	2 50	75	1,355.00	.....	.....	.....	.....
"	7	10	2 50	175	4,375.00	.....	.....	.....	.....
"	1	9	2 50	13	572.00	.....	.....	.....	.....
"	1	7	2 50	.....	455.00	.....	.....	.....	.....
"	3	12	2 00	160	1,712.00	.....	.....	.....	.....
"	1	12	1 75	35	511.00	.....	.....	.....	.....
"	1	12	1 50	.....	468.00	.....	.....	.....	.....
"	1	9	1 50	.....	351.00	.....	.....	.....	.....
	36	384	.....	\$1,193	\$23,318.00	10.7	\$2.33	\$647.72	\$2.08

WAITERS.

Waiters.....	2	12	\$2.25	.....	\$1,404.00	.....	.....	.....	.....
"	1	12	2.10	.....	655.20	.....	.....	.....	.....
"	18	12	1.90	.....	10,670.40	.....	.....	.....	.....
	21	252	.....	.....	\$12,729.60	12.	\$1.94	\$606.17	\$1.94

TABLE 3—Continued.

FARM LABORERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Farm laborers.....	3	12	\$1.52	.....	\$1,422.72	.....	.....	.....	.....
"	1	12	1.35	.....	420.20	.....	.....	.....	.....
"	1	12	1.33	.....	414.96	.....	.....	.....	.....
"	15	12	1.28	.....	5,990.40	.....	.....	.....	.....
"	5	12	1.20	.....	1,872.00	.....	.....	.....	.....
"	4	12	1.15	.....	1,431.20	.....	.....	.....	.....
"	8	12	1.12	.....	2,795.52	.....	.....	.....	.....
"	1	12	1.11	.....	347.32	.....	.....	.....	.....
"	1	12	1.06	.....	330.72	.....	.....	.....	.....
"	1	12	1.04	.....	324.48	.....	.....	.....	.....
"	4	12	1.03	.....	1,285.44	.....	.....	.....	.....
"	11	12	1.00	.....	3,432.00	.....	.....	.....	.....
"	4	12	.91	.....	1,227.68	.....	.....	.....	.....
	50	708	.....	.....	\$21,294.64	12.	\$1.16	\$360.93	\$1.16

MINERS.

Mine Captain.....	1	12	\$4.25	.....	\$1,326.00	.....	.....	.....	.....
"	2	12	3.85	.....	2,402.40	.....	.....	.....	.....
"	2	12	3.05	.....	1,903.20	.....	.....	.....	.....
Miners.....	62	12	2.75	.....	53,196.00	.....	.....	.....	.....
"	48	12	2.60	.....	38,537.60	.....	.....	.....	.....
"	190	12	2.50	.....	148,200.00	.....	.....	.....	.....
Blasters.....	4	12	2.25	.....	2,808.00	.....	.....	.....	.....
Trammers.....	20	12	2.30	.....	14,352.00	.....	.....	.....	.....
"	35	12	2.10	.....	22,932.00	.....	.....	.....	.....
"	30	12	1.90	.....	17,784.00	.....	.....	.....	.....
"	65	12	1.60	.....	32,448.00	.....	.....	.....	.....
Laborers.....	45	12	1.70	.....	23,868.00	.....	.....	.....	.....
"	35	12	1.60	.....	17,472.00	.....	.....	.....	.....
	530	6,468	.....	.....	\$377,620.20	12.	\$2.25	\$700.61	\$2.25

FURRIERS.

Foremen.....	1	12	\$5.75	.....	\$1,794.00	.....	.....	.....	.....
"	1	11	3.40	.....	972.40	.....	.....	.....	.....
"	3	12	3.35	.....	3,135.60	.....	.....	.....	.....
"	1	12	3.00	.....	936.00	.....	.....	.....	.....
	6	71	.....	.....	\$6,838.00	11.8	\$3.71	\$1,139.67	\$3.65
Journeyman.....	2	11	\$2.65	.....	\$1,515.80	.....	.....	.....	.....
"	1	11	2.50	.....	715.00	.....	.....	.....	.....
"	1	12	2.15	.....	670.80	.....	.....	.....	.....
"	1	9	2.15	.....	503.10	.....	.....	.....	.....
"	1	7	2.15	.....	391.30	.....	.....	.....	.....
"	2	12	2.00	.....	1,248.00	.....	.....	.....	.....
"	6	11	2.00	.....	3,432.00	.....	.....	.....	.....
"	1	9	2.00	.....	468.00	.....	.....	.....	.....
"	1	11	1.85	.....	529.10	.....	.....	.....	.....
"	1	12	1.75	.....	546.00	.....	.....	.....	.....
"	4	11	1.65	.....	1,887.60	.....	.....	.....	.....
"	1	12	1.50	.....	468.00	.....	.....	.....	.....
"	1	11	1.50	.....	429.00	.....	.....	.....	.....
"	1	11	1.35	.....	386.10	.....	.....	.....	.....
	24	261	.....	.....	\$13,189.80	10.9	\$1.94	\$549.57	\$1.76

TABLE 3—Continued.

PLANING-MILL OPERATIVES.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Journeyman.....	1	12	\$3.00	\$60	\$376.00	.....	.....	.....	.....
"	1	10	3.00	30	750.00	.....	.....	.....	.....
"	1	11	2.75	41	745.50	.....	.....	.....	.....
"	4	12	2.50	200	2,920.00	.....	.....	.....	.....
"	3	11	2.50	113	2,032.00	.....	.....	.....	.....
"	2	10	2.50	50	1,250.00	.....	.....	.....	.....
"	3	12	2.25	135	1,971.00	.....	.....	.....	.....
"	4	11	2.25	135	2,439.00	.....	.....	.....	.....
"	2	10	2.25	112	1,058.00	.....	.....	.....	.....
"	4	12	2.00	180	2,316.00	.....	.....	.....	.....
"	2	11	2.00	67	1,077.00	.....	.....	.....	.....
"	7	10	2.00	157	3,483.00	.....	.....	.....	.....
"	1	8	2.00	.....	416.00	.....	.....	.....	.....
"	4	12	1.75	140	2,044.00	.....	.....	.....	.....
"	4	11	1.75	105	1,897.00	.....	.....	.....	.....
"	5	10	1.75	87	2,188.00	.....	.....	.....	.....
"	1	11	1.65	25	446.90	.....	.....	.....	.....
"	2	10	1.60	32	800.00	.....	.....	.....	.....
"	5	12	1.50	150	2,190.00	.....	.....	.....	.....
"	6	11	1.50	135	2,439.00	.....	.....	.....	.....
"	15	10	1.50	225	5,625.00	.....	.....	.....	.....
"	1	9	1.50	7	344.00	.....	.....	.....	.....
"	1	8	1.50	.....	312.00	.....	.....	.....	.....
"	6	10	1.45	87	2,175.00	.....	.....	.....	.....
"	4	12	1.35	108	1,578.80	.....	.....	.....	.....
"	3	10	1.35	40	1,013.00	.....	.....	.....	.....
"	2	12	1.25	50	730.00	.....	.....	.....	.....
"	5	10	1.25	62	1,563.00	.....	.....	.....	.....
"	7	11	1.00	105	1,897.00	.....	.....	.....	.....
"	1	10	1.00	10	250.00	.....	.....	.....	.....
"	1	9	1.00	5	229.00	.....	.....	.....	.....
	108	1,156	.....	\$2,653	\$49,063.20	10.7	\$1.63	\$454.20	\$1.46

HARNESS MAKERS.

Foremen.....	2	12	\$3.00	\$120	\$1,752.00	.....	.....	.....	.....
"	2	24	.....	\$120	\$1,752.00	12	2.81	\$876.00	\$3.81
Journeyman.....	3	12	\$2.65	\$159	\$2,321.40	.....	.....	.....	.....
"	1	12	2.50	50	730.00	.....	.....	.....	.....
"	1	11	2.50	37	678.00	.....	.....	.....	.....
"	1	10	2.35	24	587.00	.....	.....	.....	.....
"	2	12	2.25	90	1,314.00	.....	.....	.....	.....
"	1	12	2.15	43	627.80	.....	.....	.....	.....
"	1	11	2.15	32	582.90	.....	.....	.....	.....
"	12	12	2.00	240	7,348.00	.....	.....	.....	.....
"	1	9	2.00	10	456.00	.....	.....	.....	.....
"	3	12	1.75	105	1,533.00	.....	.....	.....	.....
"	1	8	1.75	.....	364.00	.....	.....	.....	.....
"	9	12	1.65	297	4,236.20	.....	.....	.....	.....
"	1	11	1.65	25	446.90	.....	.....	.....	.....
"	1	10	1.65	17	412.00	.....	.....	.....	.....
"	1	9	1.65	8	278.10	.....	.....	.....	.....
"	5	12	1.50	150	2,190.00	.....	.....	.....	.....
"	2	11	1.50	45	813.00	.....	.....	.....	.....
"	2	10	1.50	30	750.00	.....	.....	.....	.....
"	1	9	1.50	7	344.00	.....	.....	.....	.....
"	2	12	1.35	54	788.40	.....	.....	.....	.....
	51	586	.....	\$1,423	\$36,902.70	11.5	\$1.76	\$527.50	\$1.60

TABLE 3—Continued.

STONE MASONS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	2	7	\$4.00		\$1,456.00				
"	6	11	3.50	\$315	5,691.00				
"	1	10	3.50	85	875.00				
"	4	9	3.50	70	3,206.00				
"	8	8	3.50		5,824.00				
"	6	7	3.50		3,822.00				
"	3	6	3.50		3,276.00				
"	5	5	3.50		910.00				
"	1	3	3.35		609.70				
	36	285	.....	\$420	\$25,699.70	7.9	\$3.47	\$713.05	\$2.30
Journeyman.....	2	10	\$3.00	\$60	\$1,500.00				
"	8	8	3.00		4,992.00				
"	6	7	3.00		2,780.00				
"	3	6	3.00		986.00				
"	1	9	2.75	14	629.50				
"	2	8	2.75		1,144.00				
"	2	7	2.75		1,001.00				
"	1	6	2.75		429.00				
"	1	6	2.70		421.20				
"	4	12	2.50	200	2,920.00				
"	10	10	2.50	25	625.00				
"	6	9	2.50	25	1,145.00				
"	5	8	2.50		2,600.00				
"	6	7	2.50		4,550.00				
"	5	6	2.50		1,850.00				
"	3	5	2.50		650.00				
"	12	12	2.25	90	1,814.00				
"	1	12	2.00	40	584.00				
"	1	9	2.00	10	458.00				
"	2	7	2.00		728.00				
"	1	6	2.00		312.00				
"	1	5	2.00		260.00				
"	1	10	1.75	18	437.00				
"	8	7	1.75	.....	955.50				
	65	509	.....	\$482	\$33,271.20	7.8	\$2.52	\$511.86	\$1.64

STONE CUTTERS.

Journeyman.....	3	12	\$4.00	\$240	\$63,504.00				
"	3	11	4.00	180	3,252.00				
"	6	9	4.00	120	5,496.00				
"	25	8	4.00		20,800.00				
"	23	7	4.00		16,744.00				
"	5	6	4.00		3,120.00				
"	1	12	3.50	70	1,022.00				
"	1	9	3.50	18	801.00				
"	1	7	3.50		637.00				
"	3	8	3.50		2,184.00				
"	1	12	3.00	60	876.00				
"	1	9	3.00	15	667.00				
"	1	8	3.00		624.00				
"	1	5	2.90		377.00				
"	1	12	2.50	50	730.00				
"	2	8	2.50		1,040.00				
"	1	7	2.50		455.00				
"	1	6	2.50		390.00				
"	1	12	2.25	45	657.00				
	81	663	.....	\$7.96	\$63,366.00	8.1	\$3.72	\$782.67	\$2.51

TABLE 3—Continued.

SWITCHMEN.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 32 days.
Switchmen.....	2	11	\$3.10	.....	\$1,773.20	.....	.....	.....	.....
".....	1	10	3.10	.....	808.00	.....	.....	.....	.....
".....	3	12	3.00	.....	2,808.00	.....	.....	.....	.....
".....	1	12	2.90	.....	304.80	.....	.....	.....	.....
".....	1	9	2.90	.....	678.60	.....	.....	.....	.....
".....	1	11	2.85	.....	815.10	.....	.....	.....	.....
".....	1	11	2.85	.....	797.80	.....	.....	.....	.....
".....	1	11	2.80	.....	743.60	.....	.....	.....	.....
".....	12	12	2.50	.....	9,500.00	.....	.....	.....	.....
".....	1	11	2.50	.....	3,575.00	.....	.....	.....	.....
".....	5	10	2.50	.....	3,250.00	.....	.....	.....	.....
".....	1	9	2.50	.....	585.00	.....	.....	.....	.....
".....	1	8	2.50	.....	520.00	.....	.....	.....	.....
".....	1	7	2.50	.....	455.00	.....	.....	.....	.....
".....	3	6	2.50	.....	750.00	.....	.....	.....	.....
".....	3	12	2.45	.....	1,523.80	.....	.....	.....	.....
".....	3	12	2.25	.....	1,404.00	.....	.....	.....	.....
".....	3	11	2.25	.....	1,287.00	.....	.....	.....	.....
".....	3	9	2.25	.....	1,033.00	.....	.....	.....	.....
".....	3	12	2.20	.....	2,030.20	.....	.....	.....	.....
".....	3	12	2.10	.....	1,310.40	.....	.....	.....	.....
".....	3	11	2.10	.....	1,501.80	.....	.....	.....	.....
	54	568	.....	.....	\$38,236.40	10.9	\$2.50	\$708.45	\$2.27

SALESMEN.

Salemen.....	2	12	\$3.65	.....	\$2,577.00	.....	.....	.....	.....
".....	1	12	3.35	.....	1,045.20	.....	.....	.....	.....
".....	4	12	3.00	.....	3,744.00	.....	.....	.....	.....
".....	1	12	2.65	.....	826.80	.....	.....	.....	.....
".....	5	12	2.50	.....	3,900.00	.....	.....	.....	.....
".....	1	11	2.50	.....	715.00	.....	.....	.....	.....
".....	4	12	2.35	.....	2,932.80	.....	.....	.....	.....
".....	2	12	2.30	.....	1,435.20	.....	.....	.....	.....
".....	1	12	2.15	.....	670.80	.....	.....	.....	.....
".....	6	12	2.00	.....	3,744.00	.....	.....	.....	.....
".....	1	12	1.65	.....	514.80	.....	.....	.....	.....
".....	1	12	1.55	.....	483.60	.....	.....	.....	.....
".....	1	12	1.50	.....	468.00	.....	.....	.....	.....
".....	4	12	1.35	.....	1,084.80	.....	.....	.....	.....
".....	1	12	1.25	.....	390.00	.....	.....	.....	.....
	35	419	.....	.....	\$24,532.80	12.	\$2.27	\$709.50	\$2.27

MARBLE CUTTERS.

Foremen.....	2	12	\$3.50	\$140	\$2,044.00	.....	.....	.....	.....
".....	3	12	3.00	180	2,528.00	.....	.....	.....	.....
	5	60	.....	\$520	\$4,672.00	12	\$2.99	\$684.40	\$2.99
Journeyman.....	1	12	\$2.75	\$55	\$803.00	.....	.....	.....	.....
".....	1	12	2.65	53	773.80	.....	.....	.....	.....
".....	10	12	2.50	500	7,500.00	.....	.....	.....	.....
".....	1	11	2.50	88	677.00	.....	.....	.....	.....
".....	2	12	2.25	90	1,314.00	.....	.....	.....	.....
".....	4	12	2.00	160	2,336.00	.....	.....	.....	.....
".....	1	12	1.75	35	511.00	.....	.....	.....	.....
".....	5	12	1.50	150	2,190.00	.....	.....	.....	.....
	25	299	.....	\$1,081	\$15,904.80	12	\$2.04	\$636.19	\$2.04

TABLE 3—Continued.

HORSESHOERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	8	12	\$3.00	.....	\$7,488.00	.....	.....	.....	.....
".....	1	10	3.00	.....	1,500.00	.....	.....	.....	.....
".....	8	8	3.00	.....	624.00	.....	.....	.....	.....
	11	124	.....	.....	\$9,672.00	11.3	\$2.99	\$679.27	\$2.83
Journeymen.....	1	11	\$2.90	\$ 43	\$ 786.40	.....	.....	.....	.....
".....	3	12	2.75	185	2,409.00	.....	.....	.....	.....
".....	11	11	2.75	83	1,490.00	.....	.....	.....	.....
".....	10	10	2.75	82	2,063.00	.....	.....	.....	.....
".....	9	9	2.75	28	1,250.00	.....	.....	.....	.....
".....	8	8	2.75	.....	572.00	.....	.....	.....	.....
".....	24	12	2.50	1,200	17,520.00	.....	.....	.....	.....
".....	11	11	2.50	150	2,710.00	.....	.....	.....	.....
".....	4	10	2.50	150	3,750.00	.....	.....	.....	.....
".....	2	9	2.50	25	1,145.00	.....	.....	.....	.....
".....	2	12	2.25	90	1,314.00	.....	.....	.....	.....
".....	2	11	2.25	67	1,230.00	.....	.....	.....	.....
".....	2	10	2.25	45	1,125.00	.....	.....	.....	.....
".....	8	12	2.00	320	4,672.00	.....	.....	.....	.....
".....	2	11	2.00	60	1,064.00	.....	.....	.....	.....
".....	5	10	2.00	100	2,500.00	.....	.....	.....	.....
".....	1	9	2.00	10	458.00	.....	.....	.....	.....
".....	3	7	2.00	.....	1,092.00	.....	.....	.....	.....
".....	12	12	1.75	420	6,132.00	.....	.....	.....	.....
".....	3	11	1.75	53	1,448.50	.....	.....	.....	.....
".....	5	10	1.75	87	2,188.00	.....	.....	.....	.....
".....	7	9	1.75	61	2,805.50	.....	.....	.....	.....
".....	10	8	1.75	.....	3,640.00	.....	.....	.....	.....
".....	4	7	1.75	.....	1,274.00	.....	.....	.....	.....
".....	2	6	1.75	.....	546.00	.....	.....	.....	.....
".....	1	11	1.50	23	406.00	.....	.....	.....	.....
".....	5	9	1.50	38	1,717.00	.....	.....	.....	.....
".....	3	8	1.50	.....	936.00	.....	.....	.....	.....
".....	2	6	1.50	.....	468.00	.....	.....	.....	.....
".....	1	5	1.50	.....	195.00	.....	.....	.....	.....
".....	1	12	1.25	.....	300.00	.....	.....	.....	.....
	129	1,318	.....	\$3,300	\$69,315.40	10.2	\$2.03	\$537.33	\$1.72

WAGON MAKERS.

Foremen.....	1	8	\$3.00	.....	\$624.00	.....	.....	.....	.....
".....	1	11	2.75	.....	786.50	.....	.....	.....	.....
	2	19	.....	.....	\$1,410.50	9.5	\$2.86	\$705.25	\$2.26
Journeymen.....	1	12	\$2.50	\$50	\$730.00	.....	.....	.....	.....
".....	1	11	2.50	37	673.00	.....	.....	.....	.....
".....	1	9	2.50	12	573.00	.....	.....	.....	.....
".....	2	12	2.25	90	1,314.00	.....	.....	.....	.....
".....	2	11	2.25	67	1,230.00	.....	.....	.....	.....
".....	4	12	2.00	180	2,336.00	.....	.....	.....	.....
".....	2	11	2.00	60	1,064.00	.....	.....	.....	.....
".....	1	10	2.00	20	500.00	.....	.....	.....	.....
".....	1	12	1.75	35	511.00	.....	.....	.....	.....
".....	1	11	1.75	26	474.50	.....	.....	.....	.....
".....	2	11	1.50	45	813.00	.....	.....	.....	.....
".....	2	10	1.50	30	750.00	.....	.....	.....	.....
	20	223	.....	\$632	\$10,963.50	11.1	\$1.90	\$549.17	\$1.76

TABLE 3—Continued.

IRON MOULDERS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$4.60	.....	\$1,435.20	.....	.....	.....	.....
".....	1	12	3.45	.....	1,076.40	.....	.....	.....	.....
".....	6	12	3.00	.....	5,616.00	.....	.....	.....	.....
".....	3	11	3.00	.....	2,574.00	.....	.....	.....	.....
".....	1	10	3.00	.....	780.00	.....	.....	.....	.....
	12	130	—	.....	\$11,481.00	11.6	\$3.17	\$656.80	\$3.07
Journeyman.....	5	12	\$2.75	\$275	\$4,015.00	.....	.....	.....	.....
".....	3	11	2.75	124	2,235.50	.....	.....	.....	.....
".....	1	10	2.75	55	660.00	.....	.....	.....	.....
".....	1	9	2.75	55	1,232.00	.....	.....	.....	.....
".....	2	8	2.75	.....	1,144.00	.....	.....	.....	.....
".....	2	8	2.75	.....	858.00	.....	.....	.....	.....
".....	6	12	2.50	400	5,840.00	.....	.....	.....	.....
".....	4	11	2.50	150	2,710.00	.....	.....	.....	.....
".....	1	10	2.50	62	625.00	.....	.....	.....	.....
".....	1	9	2.50	.....	2,863.00	.....	.....	.....	.....
".....	3	8	2.50	.....	1,560.00	.....	.....	.....	.....
".....	6	7	2.50	.....	2,730.00	.....	.....	.....	.....
".....	3	6	2.50	.....	1,170.00	.....	.....	.....	.....
".....	1	12	2.25	45	657.00	.....	.....	.....	.....
".....	3	12	2.00	120	1,752.00	.....	.....	.....	.....
".....	1	8	2.00	.....	416.00	.....	.....	.....	.....
".....	2	12	1.75	70	1,022.00	.....	.....	.....	.....
".....	1	12	1.50	30	438.00	.....	.....	.....	.....
".....	1	11	1.50	22	407.00	.....	.....	.....	.....
".....	1	10	1.50	15	375.00	.....	.....	.....	.....
".....	1	9	1.50	8	343.00	.....	.....	.....	.....
".....	2	8	1.50	.....	624.00	.....	.....	.....	.....
".....	2	6	1.50	.....	468.00	.....	.....	.....	.....
	60	578	.....	\$1,456	\$34,144.50	9.6	\$2.28	\$569.07	\$1.82

CORNICE MAKERS.

Foremen.....	2	12	\$3.50	.....	\$2,184.00	.....	.....	.....	.....
".....	1	12	3.00	.....	996.00	.....	.....	.....	.....
	3	36	.....	.....	\$3,120.00	12	\$3.33	\$1,040.00	\$3.33
Journeyman.....	1	11	\$2.85	\$43	\$772.10	.....	.....	.....	.....
".....	4	12	2.75	220	3,912.00	.....	.....	.....	.....
".....	1	11	2.75	41	745.50	.....	.....	.....	.....
".....	3	10	2.75	82	2,093.00	.....	.....	.....	.....
".....	1	9	2.75	14	629.50	.....	.....	.....	.....
".....	15	12	2.50	750	10,950.00	.....	.....	.....	.....
".....	6	11	2.50	225	4,065.00	.....	.....	.....	.....
".....	9	10	2.50	225	5,625.00	.....	.....	.....	.....
".....	1	9	2.50	12	573.00	.....	.....	.....	.....
".....	1	8	2.50	.....	530.00	.....	.....	.....	.....
".....	3	12	2.25	135	1,971.00	.....	.....	.....	.....
".....	1	11	2.25	34	609.50	.....	.....	.....	.....
".....	2	10	2.25	45	1,125.00	.....	.....	.....	.....
".....	1	9	2.25	11	515.50	.....	.....	.....	.....
".....	1	8	2.25	.....	468.00	.....	.....	.....	.....
".....	1	9	1.00	.....	234.00	.....	.....	.....	.....
	51	555	.....	\$1,837	\$34,078.10	10.9	\$2.36	\$668.20	\$2.14

TABLE 3—Continued.

STATIONARY ENGINEERS.

	Number of men.	Number of months employed.	Rate per day.	Lost by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for all days.
Head Engineers...	1	12	\$4.15	.....	\$1,204.80	.....	.....	.....	.....
" "	1	7	4.00	.....	728.00	.....	.....	.....	.....
" "	4	12	3.85	.....	4,804.00	.....	.....	.....	.....
" "	1	12	3.45	.....	1,076.40	.....	.....	.....	.....
" "	1	12	3.25	.....	1,014.00	.....	.....	.....	.....
" "	1	12	3.20	.....	936.40	.....	.....	.....	.....
" "	1	11	3.10	.....	886.60	.....	.....	.....	.....
" "	1	12	3.00	.....	936.00	.....	.....	.....	.....
Engineers.....	11	126	.....	.....	\$11,738.20	11.5	\$3.57	\$1,067.11	\$3.42
" "	2	12	\$2.30	.....	\$1,809.60	.....	.....	.....	.....
" "	1	7	2.30	.....	527.80	.....	.....	.....	.....
" "	2	12	2.70	.....	1,684.80	.....	.....	.....	.....
" "	1	11	2.70	.....	772.20	.....	.....	.....	.....
" "	1	12	2.60	.....	811.20	.....	.....	.....	.....
" "	4	12	2.50	.....	3,120.00	.....	.....	.....	.....
" "	1	11	2.50	.....	715.00	.....	.....	.....	.....
" "	1	10	2.50	.....	650.00	.....	.....	.....	.....
" "	1	9	2.30	.....	585.00	.....	.....	.....	.....
" "	2	6	2.50	.....	780.00	.....	.....	.....	.....
" "	3	12	2.30	.....	2,152.80	.....	.....	.....	.....
" "	1	7	2.30	.....	418.60	.....	.....	.....	.....
" "	8	12	2.25	.....	1,404.00	.....	.....	.....	.....
" "	1	10	2.25	.....	585.00	.....	.....	.....	.....
" "	2	12	2.70	.....	1,310.40	.....	.....	.....	.....
	25	269	.....	.....	\$17,226.40	10.8	\$2.47	\$908.06	\$2.22

FURNITURE FACTORY OPERATIVES.

Foremen.....	1	12	\$3.00	200	\$675.00	.....	.....	.....	.....
" "	1	12	2.90	58	546.80	.....	.....	.....	.....
" "	1	12	2.75	55	808.00	.....	.....	.....	.....
" "	1	12	2.60	40	584.00	.....	.....	.....	.....
Journeyman.....	4	46	.....	3213	\$3,100.80	12.	\$2.49	\$777.45	\$2.49
" "	3	12	\$2.25	\$135	\$1,971.00	.....	.....	.....	.....
" "	6	12	2.00	240	3,504.00	.....	.....	.....	.....
" "	2	11	2.00	60	1,084.00	.....	.....	.....	.....
" "	1	12	1.85	37	540.20	.....	.....	.....	.....
" "	4	12	1.75	140	2,044.00	.....	.....	.....	.....
" "	1	11	1.75	26	474.50	.....	.....	.....	.....
" "	2	12	1.50	60	876.00	.....	.....	.....	.....
" "	1	11	1.50	22	407.00	.....	.....	.....	.....
" "	4	10	1.50	60	1,500.00	.....	.....	.....	.....
" "	2	10	1.40	28	700.00	.....	.....	.....	.....
" "	1	12	1.35	27	364.20	.....	.....	.....	.....
" "	1	10	1.35	13	338.00	.....	.....	.....	.....
" "	3	12	1.25	75	1,095.00	.....	.....	.....	.....
" "	2	11	1.25	37	673.00	.....	.....	.....	.....
" "	1	12	1.00	20	222.00	.....	.....	.....	.....
" "	2	11	1.00	30	542.00	.....	.....	.....	.....
" "	6	10	1.00	60	1,500.00	.....	.....	.....	.....
	42	470	.....	\$1,070	\$17,980.90	11.2	\$1.47	\$27.14	\$1.37

TABLE 3—Continued.
FLOUR-MILL OPERATIVES.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 300 days.
Journeyman.....	1	12	36.40	.	\$1,006.80				
"	2	12	5.75		2,588.00				
"	1	12	4.80		1,497.60				
"	1	9	4.80		1,123.20				
"	1	12	4.40		1,372.80				
"	1	9	4.15		971.10				
"	1	12	3.85		1,301.20				
"	1	12	3.50		2,276.00				
"	1	9	3.50		2,457.00				
"	1	12	3.25		3,042.00				
"	1	10	3.25		845.00				
"	30	12	3.00		28,080.00				
"	2	11	3.00		1,716.00				
"	2	10	3.00		3,900.00				
"	6	9	3.00		6,318.00				
"	1	6	3.00		468.00				
"	1	9	2.90		678.60				
"	1	10	2.75		4,290.00				
"	1	12	2.75		1,786.50				
"	2	10	2.75		1,430.00				
"	2	9	2.75		1,930.50				
"	2	8	2.75		1,144.00				
"	1	7	2.75		500.50				
"	1	12	2.70		842.40				
"	27	12	2.50		21,060.00				
"	5	11	2.50		3,575.00				
"	2	10	2.50		1,300.00				
"	2	9	2.50		5,265.00				
"	4	8	2.50		2,080.00				
"	6	7	2.50		2,730.00				
"	3	12	2.30		2,152.80				
"	2	11	2.30		1,315.80				
"	2	10	2.30		1,196.00				
"	18	12	2.25		12,636.00				
"	4	12	2.25		2,574.00				
"	2	11	2.25		1,170.00				
"	7	9	2.25		3,685.50				
"	2	8	2.25		936.00				
"	1	8	2.15		447.20				
"	2	12	2.10		1,310.40				
"	35	12	2.00		21,840.00				
"	3	11	2.00		1,716.00				
"	3	10	2.00		1,560.00				
"	23	9	2.00		10,764.00				
"	5	8	2.00		2,080.00				
"	4	7	2.00		1,456.00				
"	1	12	1.95		608.40				
"	2	9	1.90		869.20				
"	2	9	1.80		842.40				
"	54	12	1.75		29,484.00				
"	6	11	1.75		3,008.00				
"	20	10	1.75		9,100.00				
"	26	9	1.75		10,647.00				
"	13	8	1.75		4,782.00				
"	4	7	1.75		1,274.00				
"	1	12	1.65		514.80				
"	5	12	1.60		2,496.00				
"	8	12	1.55		3,868.80				
"	4	10	1.55		1,612.00				
"	5	9	1.55		1,813.50				
"	22	12	1.50		10,296.00				
"	7	11	1.50		3,008.00				
"	9	10	1.50		3,510.00				
"	9	9	1.50		3,150.00				
"	1	8	1.50		312.00				
"	1	12	1.40		496.80				
"	2	12	1.35		542.40				
"	2	9	1.35		631.80				

TABLE 3—Continued.

FLOUR-MILL OPERATIVES.—Continued.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Journeyman	12	12	\$1.25	.....	\$4,680.00	.....	.....	.....	.....
"	3	11	1.25	.....	1,072.50	.....	.....	.....	.....
"	1	12	1.20	.....	374.40	.....	.....	.....	.....
"	11	11	1.20	.....	686.40	.....	.....	.....	.....
"	1	10	1.20	.....	312.00	.....	.....	.....	.....
"	6	12	1.15	.....	2,152.80	.....	.....	.....	.....
"	3	11	1.15	.....	986.70	.....	.....	.....	.....
"	3	10	1.15	.....	598.00	.....	.....	.....	.....
"	1	9	1.15	.....	538.20	.....	.....	.....	.....
"	1	8	1.15	.....	239.20	.....	.....	.....	.....
"	1	7	1.15	.....	209.30	.....	.....	.....	.....
"	1	12	1.00	.....	312.00	.....	.....	.....	.....
"	1	11	1.00	.....	286.00	.....	.....	.....	.....
"	3	10	1.00	.....	780.00	.....	.....	.....	.....
	493	5,248	.....	.....	\$282,608.80	10.6	\$2.06	\$573.24	\$1.84

MORTAR MIXERS.

Mortar Mixers	3	11	\$2.00	\$90	\$1,626.00	.....	.....	.....	.....
"	1	10	2.00	20	500.00	.....	.....	.....	.....
"	1	8	2.00	.....	416.00	.....	.....	.....	.....
"	2	12	1.75	70	1,022.00	.....	.....	.....	.....
"	3	11	1.75	79	1,422.00	.....	.....	.....	.....
"	4	10	1.75	70	1,750.50	.....	.....	.....	.....
"	4	9	1.75	35	1,603.00	.....	.....	.....	.....
"	4	8	1.75	.....	1,456.00	.....	.....	.....	.....
"	1	6	1.75	.....	273.00	.....	.....	.....	.....
"	1	11	1.50	23	406.00	.....	.....	.....	.....
"	1	9	1.50	7	344.00	.....	.....	.....	.....
"	1	6	1.50	.....	234.00	.....	.....	.....	.....
"	1	9	1.25	6	286.50	.....	.....	.....	.....
"	2	7	1.25	.....	455.00	.....	.....	.....	.....
	29	271	.....	\$400	\$11,794.00	9.3	\$1.60	\$406.69	\$1.30

BARBERS.

Foremen	1	12	\$2.85	.....	\$880.20	.....	.....	.....	.....
"	4	12	2.65	.....	3,307.20	.....	.....	.....	.....
	5	60	.....	.....	\$4,196.40	12.	\$2.60	\$530.28	\$2.60
Journeyman	6	12	\$2.50	.....	\$4,680.00	.....	.....	.....	.....
"	3	11	2.50	.....	2,145.00	.....	.....	.....	.....
"	13	10	2.50	.....	1,950.00	.....	.....	.....	.....
"	15	12	2.35	.....	10,908.00	.....	.....	.....	.....
"	9	12	2.15	.....	6,037.20	.....	.....	.....	.....
"	3	11	2.15	.....	1,844.70	.....	.....	.....	.....
"	1	10	2.15	.....	550.00	.....	.....	.....	.....
"	18	12	2.00	.....	11,232.00	.....	.....	.....	.....
"	2	11	2.00	.....	1,144.00	.....	.....	.....	.....
"	2	9	2.00	.....	936.00	.....	.....	.....	.....
"	7	12	1.65	.....	3,603.60	.....	.....	.....	.....
"	4	12	1.60	.....	1,872.00	.....	.....	.....	.....
"	1	12	1.35	.....	421.20	.....	.....	.....	.....
	74	866	.....	.....	\$47,422.70	11.7	\$2.11	\$640.85	\$2.05

TABLE 3—Continued.

TAILORS.

	Number of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$3.65		\$1,138.80				
".....	1	9	3.65		854.10				
".....	1	8	3.50		819.00				
".....	1	8	3.50		728.00				
Journeyman.....	4	38			\$3,539.90	9.5	\$3.68	\$884.97	\$2.84
".....	1	11	\$3.35		\$958.10				
".....	1	10	3.35		871.00				
".....	1	9	3.35		783.90				
".....	1	8	3.35		696.80				
".....	3	12	3.00		2,808.00				
".....	2	11	3.00		1,716.00				
".....	4	10	3.00		3,120.00				
".....	1	9	3.00		702.00				
".....	1	7	3.00		546.00				
".....	1	7	2.85		518.70				
".....	3	12	2.85		2,480.40				
".....	1	10	2.85		689.00				
".....	1	9	2.85		620.10				
".....	2	12	2.50		1,560.00				
".....	3	10	2.50		1,755.00				
".....	3	8	2.50		1,560.00				
".....	3	7	2.50		910.00				
".....	1	10	2.25		611.00				
".....	2	9	2.25		1,009.80				
".....	1	11	2.15		670.80				
".....	1	9	2.15		503.10				
".....	1	8	2.10		438.80				
".....	1	10	2.00		520.00				
".....	2	9	2.00		936.00				
".....	4	8	2.00		1,664.00				
".....	5	6	2.00		1,560.00				
".....	1	10	1.65		429.00				
".....	2	8	1.65		698.40				
".....	1	8	1.35		280.80				
".....	1	6	1.35		210.00				
	54	400			\$31,903.30	9.1	\$2.60	\$690.80	\$1.80

LITHOGRAPHERS.

Foremen.....	1	12	\$5.85		\$1,825.20				
".....	2	12	4.15		2,569.60				
Journeyman.....	3	36			\$4,414.80	12.	\$4.72	\$1,471.00	\$4.72
".....	1	11	\$3.65		\$1,043.00				
".....	3	12	3.00		2,808.00				
".....	2	11	3.00		1,716.00				
".....	1	11	2.85		816.10				
".....	1	12	2.75		858.00				
".....	1	12	2.50		780.00				
".....	2	11	2.00		1,144.00				
".....	2	12	1.85		1,154.40				
".....	1	12	1.65		514.80				
".....	2	12	1.50		936.00				
".....	1	11	1.15		329.90				
".....	2	12	1.00		624.00				
	20	232			\$13,437.20	11.6	\$2.23	\$671.66	\$2.15

TABLE 3—Continued.

PATTERN MAKERS.

	mer of men.	Number of months employed.	Rate per day.	Loss by short hours in winter.	Total annual earnings.	Average number of months employed.	Average rate per day while employed.	Average annual earnings.	Average rate per day for 312 days.
Foremen.....	1	12	\$3.50	\$ 70	\$1,022.00				
".....	3	12	3.00	180	2,628.00				
	4	48	.....	\$250	\$3,650.00	12	\$2.92	\$912.50	\$2.92
Journeyemen.....	4	12	\$2.75	\$220	\$3,212.00				
".....	5	12	2.50	250	3,650.00				
".....	1	11	2.50	38	677.00				
".....	1	10	2.50	25	625.00				
".....	4	12	2.25	180	2,628.00				
".....	1	6	2.25	.....	351.00				
".....	1	12	1.50	30	438.00				
".....	1	12	1.25	.....	390.00				
	18	207	.....	\$743	\$11,971.00	11.5	\$2.22	\$695.06	\$2.13

STATIONARY FIREMEN.

Stationary Firem'n	1	9	\$2.50	.....	\$585.00				
".....	1	12	2.30	.....	717.60				
".....	2	6	2.25	.....	702.00				
".....	1	12	2.00	.....	624.00				
".....	1	11	2.00	.....	572.00				
".....	1	7	2.00	.....	364.00				
".....	3	12	1.90	.....	1,778.40				
".....	6	12	1.75	.....	3,276.00				
".....	1	12	1.65	.....	514.80				
".....	3	12	1.55	.....	1,404.00				
".....	1	10	1.50	.....	390.00				
".....	1	11	1.40	.....	400.40				
".....	2	9	1.35	.....	631.80				
	24	258	.....	.....	\$11,960.00	10.7	\$1.79	\$496.33	\$1.60

TEAMSTERS.

Teamsters.....	6	12	\$1.85	\$222	\$3,241.20				
".....	1	11	1.85	28	501.10				
".....	1	8	1.75	.....	364.00				
".....	1	12	1.65	35	491.80				
".....	1	12	1.55	31	452.60				
".....	1	8	1.55	.....	322.40				
".....	2	7	1.55	.....	504.20				
".....	7	12	1.50	210	3,066.00				
".....	3	11	1.50	67	1,220.00				
".....	2	10	1.50	30	750.00				
".....	1	9	1.50	8	343.00				
".....	2	8	1.50	.....	624.00				
".....	5	7	1.50	.....	1,365.00				
".....	6	6	1.50	.....	1,404.00				
	39	370	.....	\$629	\$14,690.30	9.5	\$1.52	\$376.74	\$1.21

TABLE 4.—*Showing Number of Men Reporting, Number of Months Employed in Summer, Rate per Day, Total Summer Earnings, Average Months Employed in Summer, Average Rate per Day, While Employed, and Average Summer Earnings—Including Foremen.*

SAW-MILL OPERATIVES.

	Number of men.	Months employed in summer.	Rate per day.	Total summer earnings.	Average months employed in summer.	Average rate per day while employed.	Average summer earnings.
Saw-mill operatives.....	2	7	88.00	\$2,912.00			
"	1	7	7.00	1,274.00			
"	1	6	6.50	1,014.00			
"	1	7	6.00	1,092.00			
"	1	5	6.00	780.00			
"	2	6	5.50	1,716.00			
"	1	6	5.25	819.00			
"	3	6	5.00	2,340.00			
"	1	5	5.00	650.00			
"	1	6	4.80	748.80			
"	3	7	4.50	2,457.00			
"	3	6	4.50	2,106.00			
"	1	5	4.50	585.00			
"	2	6	4.25	1,326.00			
"	7	7	4.00	5,096.00			
"	9	6	4.00	5,616.00			
"	3	5	4.00	1,560.00			
"	1	7	3.50	637.00			
"	1	6	3.50	546.00			
"	4	7	3.00	2,184.00			
"	6	6	3.00	2,808.00			
"	1	5	3.00	390.00			
"	3	7	2.75	1,501.50			
"	3	6	2.75	1,287.00			
"	1	12	2.50	730.00			
"	1	9	2.50	573.00			
"	1	8	2.50	520.00			
"	9	7	2.50	4,095.00			
"	14	6	2.50	5,460.00			
"	1	5	2.50	325.00			
"	10	7	2.25	4,095.00			
"	19	6	2.25	6,669.00			
"	1	6	2.05	319.80			
"	25	7	2.00	9,100.00			
"	17	6	2.00	5,304.00			
"	7	7	1.90	2,420.60			
"	10	6	1.90	2,964.00			
"	2	9	1.75	801.00			
"	4	8	1.75	1,456.00			
"	46	7	1.75	14,661.00			
"	72	6	1.75	19,656.00			
"	9	7	1.65	2,702.70			
"	12	6	1.65	3,068.80			
"	4	7	1.60	1,164.80			
"	10	6	1.60	2,496.00			
"	1	9	1.55	354.70			
"	3	8	1.55	967.20			
"	4	12	1.50	1,752.00			
"	8	11	1.50	3,252.00			
"	6	10	1.50	2,250.00			
"	3	9	1.50	1,081.00			
"	11	8	1.50	8,432.00			
"	61	7	1.50	16,653.00			
"	114	6	1.50	26,676.00			
"	4	5	1.50	780.00			
"	6	6	1.35	1,263.60			
"	4	12	1.25	1,480.00			

SAW-MILL OPERATIVES.—Continued.

	Number of men.	Months employed in summer.	Rate per day.	Total summer earnings.	Average months employed in summer.	Average rate per day while employed.	Average summer earnings.
Saw-mill operatives.....	9	11	\$1.25	\$3,061.50	.....	.....	.....
" "	2	10	1.25	625.00	.....	.....	.....
" "	3	9	1.25	858.50	.....	.....	.....
" "	5	8	1.25	1,300.00	.....	.....	.....
" "	19	7	1.25	4,322.50	.....	.....	.....
" "	10	6	1.25	1,950.00	.....	.....	.....
" "	64	5	1.25	10,400.00	.....	.....	.....
" "	4	7	1.00	728.00	.....	.....	.....
	677	4,461	.....	\$213,154.00	6.6	\$1.83	\$314.85

TABLE 5.—Showing Number of Men Reporting, Number of Months Employed in Winter, Rate per Day, Including Board, Total Winter Earnings, Average Number of Months Employed in Winter, Average Rate per Day During Winter, and Average Winter Earnings—Including Foremen.

LOGGERS.

	Number of men.	Months employed in winter.	Rate per day, including board.	Total winter earnings.	Average months employed in winter.	Average rate per day while employed.	Average winter earnings.
Foreman.....	11	4	\$2.40	\$2,745.60	.....	.....	.....
Drivers.....	390	3	2.75	64,350.00	.....	.....	.....
" "	273	2	2.75	30,325.00	.....	.....	.....
Blacksmiths.....	12	4	2.00	2,400.00	.....	.....	.....
Cooks.....	15	4	2.00	3,120.00	.....	.....	.....
" "	5	4	1.60	832.00	.....	.....	.....
Sled tenders.....	25	4	1.55	4,080.00	.....	.....	.....
" "	10	4	1.45	1,505.00	.....	.....	.....
" "	10	4	1.30	1,352.00	.....	.....	.....
Sawyers.....	115	4	1.45	17,342.00	.....	.....	.....
Teamsters.....	30	4	1.40	4,368.00	.....	.....	.....
" "	40	4	1.45	6,032.00	.....	.....	.....
Assistant blacksmiths.....	10	4	1.25	1,300.00	.....	.....	.....
" "	2	4	1.45	301.60	.....	.....	.....
Assistant sled tenders.....	25	4	1.30	3,380.00	.....	.....	.....
Chain men.....	95	4	1.30	12,844.00	.....	.....	.....
Cookies.....	15	4	1.15	1,794.00	.....	.....	.....
" "	5	4	1.30	676.00	.....	.....	.....
Swampers.....	210	4	1.25	27,300.00	.....	.....	.....
Roustabouts.....	50	4	1.15	5,980.00	.....	.....	.....
	1,200	4,190	.....	\$301,076.20	3.3	\$1.86	\$159.56

EXPENSES.

GROCERIES.

TEAS.	
Japan.	
	pr lb
Uncolored, good quality.....	25
" very good.....	35
" extra quality.....	50
" Pin Leaf sun-dried.....	60
" extra.....	70
Basket fired, fine quality.....	60
" extra quality.....	70

Oolong.

Formosa, good.....	35
" fine.....	40
" extra.....	50
" superior.....	60
" extra fine.....	70 to 90

English Breakfast.

Fine Souchong.....	35 to 50
Extra.....	60 " 70
Fine Congon.....	40 " 60
Extra fine Congon.....	70 " 90

Gunpowder.

Moyune, good quality.....	40, 50, 60
" extra fine.....	70, 80, 90

Young Hyson.

Moyune, good quality.....	40, 50, 60
" extra fine.....	70, 80, 90

India Teas.

Russian Caravan.....	60, 75, 1.00
Imperial Sio fayoon.....	70, 90, 1.00
Flowery Peekoe.....	80, 90, 1.25
Finest Himalayan.....	75

COFFEES.

Mocha Arabian, green.....	33 to 35
" roasted.....	38 " 40
Java, fancy Mandheling, green.....	33 " 35
" roasted.....	36 " 38
" Old Government, green.....	27 " 30
" roasted.....	31 " 33
Guatemala, green.....	27
" roasted.....	30
Maracaibo, green.....	27
" roasted.....	30
Rio, fancy golden green.....	25
" roasted.....	28
" green.....	20 to 22
" roasted.....	23 " 25

SUGARS.

Cut Loaf.....	9
Granulated.....	7
Powdered.....	8
Standard A.....	6½
Extra C.....	6½
Porto Rico.....	5½
Yellow C.....	6
Vermont maple, bright, pure.....	15
" dark.....	12½
Ohio " bright, ".....	15

FLOUR.

	pr sack
Michaud's extra fancy patent.....	\$3.00
Michaud's extra family.....	2.75
Graham winter wheat, in 12½ lb sacks.....	30
Graham Orange Blossom, 12½ lb bag.....	30

	pr sack
Buckwheat, Hecker's self-rising, 5 lbs pkg.....	30
Buckwheat, Hecker's self-rising, 2½ lb pkg.....	15
Buckwheat, King's self-rising, 5 lb pkg.....	30

Corn Meal.

Akron white per bbl.....	4.00
" lb.....	3
" yellow " bbl.....	3.50
" lb.....	2
Gold Dust, per 12½ lb pkg.....	20
Bolted, per 12½ lb pkg.....	15

Oat Meal.

McCann's Imported Irish, 14 lbs cans, per can.....	1.50
Akron Mill per bbl.....	6.75
" lb.....	4
Rollod White Oats, 180 lbs bbl.....	5.40
" per lb.....	3

Quaker Rolled Oats, 2 lb pkgs.....	each doz. 12½ 1.35
Thurber's Shredded Oats, 2 lb pkgs.....	10 1.10
Schumacher's Rolled Avena, 2 lb pkgs.....	12½ 1.40
Oatline Rolled, 2 lbs pkgs.....	12½ 1.40

CEREAL PRODUCTS, ETC.

Cracked Wheat Akron Mill per bbl.....	7.35
Cracked Wheat Akron Mill per lb.....	5
Rollod White Wheat per bbl.....	7.35
" lb.....	5

Fould's White Wheat germ 2 lbs pkg.....	each doz. 12½ 1.40
Mark's Rolled Wheat, 2 lbs pkg.....	12½ 1.40
Peerless Whole Wheat Food, 2 lbs pkg.....	12½ 1.40
Cerealine, 2 lbs pkg.....	15 1.75
Granula, 2 lbs pkg.....	12½ 1.40

Hominy Pearl, per bbl 4.50; per lb.....	3
" Grits, per bbl 4.50; per lb.....	3
Taploca Flake, per lb.....	7
" Pearl.....	7
" Fine Pearl, per lb.....	8
" Rio, per pkg.....	10
Sago, white pearl per lb.....	7
Bermuda Arrowroot per pkg.....	20
Rice, fancy Carolina, per lb.....	8
" No. 1.....	7
Rice, No. 2 Carolina..... per lb.....	6
" fancy Japan.....	8
" broken Carolina.....	5
" ground..... 1 lb pkg.....	10
Barley, pot..... per lb.....	4
" fine Pearl.....	7

Beans, hand picked Navy.....	bsh. 2.25
" medium.....	qt. 2.00
" yellow eyes, (Boston).....	2.25
" Swede.....	2.50
" black turtle.....	12½

Peas, Canada green.....	1.50
" Scotch green.....	2.00
" split..... per 100 lbs.....	3.25 lb 4
Lentils, German.....	9 00 " 10
Farina, Hecker's 1 lb pkg.....	" 10
" in bulk..... per lb.....	" 10
" sea moss..... per pkg.....	" 10

Corn Starch, Kingsford, 11b pkg 8
 Corn Starch, Ottumwa, 11b pkg 5

BAKING POWDER.

Royal, 2 oz can 10
 " 4 " " 15
 " 8 " " 25
 " 12 " " 35
 " 16 " " 45
 " 3 lb " 1.25
 " 5 " " 2.00
 Dr. Price's 4 oz cans 15
 " 6 " " 20
 " 8 " " 25
 " 12 " " 35
 " 16 " " 45
 " 2½ lb " 1.00
 " 5 " " 1.95
 Snow Flake, 3 oz cans 10
 " 6 " " 18
 " 12 " " 23
 " 16 " " 32
 " 5 lb " 1.85
 " 10 " " 3.50
 Horsford's 12 oz bottles 35
 " 6 " " 20
 Kern's 1 lb can 25
 " 5 " " 1.00
 Monarch, 1 lb can 25
 " 5 " " 1.00
 " bulk, per lb 15 to 20

YEAST CAKES.

National doz. pkg 70 7
 Warner's 70 7
 Yeast Foam 50 5
 Compressed, per cake 20 2

SYRUPS.

Maple, Ohio, 1 gal can can. doz 1.50 16.00
 " ½ " " 75 8.00
 " Quebec, 1 gal can 1.25 13.00
 " ½ " " 65 7.00
 " " ½ " " 35 4.00
 " Log Cabin, 1 gal can 1.25 13.00
 " ½ " " 65 7.00
 " " ½ " " 35 4.00
 " 1st Premium, 1 gal can 1.00 10.50
 " ½ " " 55 6.00
 " " ½ " " 30 3.50
 " Sugar Camp, 1 gal can 90 10.00
 " ½ " " 50 5.50
 " " ½ " " 25 2.75
 " " " in bulk per gal 75 to 1.25

Extra sugar drips 40
 Honey drips 50
 Peerless 60
 Sugar drips, 3 gal keg 1.15
 " 5 " " 1.75

MOLASSES.

Extra New Orleans pr gal. 70
 No. 1 58
 " 2 38
 " 1, Porto Rico 58
 " 2 38
 Black Strap 25
 Sorghum 48

HONEY.

White Clover in 1 lb. comb, pr lb. 15 to 18
 Buckwheat, 1 lb combs, pr lb. 12½
 Strained, in 1 lb "tumblers," each.. 12½

CHOCOLATE.

Baker's Premium pr lb 35
 Maillard's Premium 35
 " Vanilla 50
 " double vanilla 60
 " triple 70
 Menier's (French) 40
 Wilbur's Premium 35
 Princess 35
 Whitman's Instantaneous, 1 lb 35

cans each 80
 Whitman's Instantaneous, 1¼ lb 45
 cans 60
 Wilbur's triple vanilla 25
 " vanilla sweet 25
 " Imperial 25

COCOA.

And Cocoa Preparations.

Baker's cracked cocoa, ¼ lb pkg. each 25
 " Breakfast, 1 lb tin 45
 " Prepared, ¼ lb pkg 25
 " Broma, ½ lb tin 25
 Epps', ¼ lb tin 20
 Blooker's (Dutch) 1 lb tin 1.00
 " ¼ " 50
 " ½ " 30
 Wilbur's cocoa, Theta, ¼ lb tin 35
 Baker's cocoa shells, 1 lb pkg. in bulk pr lb 12
 Groot's Dutch cocoa, in 1 lb can. each 85
 " ¼ " 45
 " ½ " 25

ARMOUR'S EXTRACT OF BEEF.

each. doz.
 2 oz 40 4.50
 4 oz 70 8.00
 8 oz 1.40 15.00
 16 oz 2.50 28.00

CONDENSED MILK.

each. doz.
 Gail & Borden's Eagle Brand... 18 2.00
 Anglo-Swiss 16 1.75
 Dime 10 1.10
 Highland 15 1.75

GELATINE.

each. doz.
 Cox's 15 1.65
 Nelson, large 15 1.65
 McLeish 12½ 1.40

EXTRACTS AND ESSENCES.

Standard Extracts.

each. doz.
 Lemon, 2 oz 5 50
 " 4 " 10 1.10
 " 8 " 20 2.20
 Vanilla, 2 " 6 70
 " 4 " 15 1.70
 " 8 " 30 3.00

SPICES.

Penang Spices—Ground.

pepper, shot... pr lb. 35
 " white 40
 " cayenne 40
 Cloves 40
 Cinnamon 35
 Ginger, Borneo 30
 Allspice, Jamaica 25
 Cream Tartar 50

Selected Spices—Ground.

In ¼ lb. tins, sifting tops.

can doz.
 Ginger 10 1.10
 Allspice 10 1.10
 Cloves 10 1.10
 Mace, 2 oz 10 1.10
 Nutmegs, 2 oz 10 1.10
 Cayennes, 4 oz 10 1.10

Mustard.

Standard, in bulk pr lb 30
 Double superfine, in bulk 30
 each doz.
 Coleman's, 1 lb tins 60 6.50
 " ½ " 30 3.25
 " ¼ " 15 1.75
 Selected, ¼ " 10 1.10

BUTTER.

pr lb
 Crescent Creamery 28
 White Rock 22
 Baldwin 25

Dairy No. 1.....	22
" 2.....	18
" cooking.....	15

CHEESE.

Full cream, York state.....	pr lb	18
" " Minnesota.....	10 to 12½	15
" " Wisconsin.....	12½	15
" " Sage.....	20	15
Young America, pr cheese.....	pr lb	25
English Dairy.....	45	30
Roquefort.....	30	14
Swiss, imported.....	12½	15
" American.....	30	
Brick cheese.....	12½	15
Sap sago.....	1	30

CULINARY HERBS.

In 4 oz. tins, sifting tops.

Selected Thyme.....	each doz.	10 1.00
" Marjoram.....	10 1.00	
" Sage.....	10 1.00	
" Savory.....	10 1.00	
" Mint.....	10 1.00	

HERBS, PRESSED.

1 lb packages.....	35	4.10
¼ " ".....	20	2.25
¼ " ".....	10	1.00

COCOANUT.

Dunham's, ¼ lb packages.....	10	1.00
" " ".....	20	2.20
" in bulk, pr lb.....	20	
Century, ¼ lb tins.....	18	2.10
" 1 ".....	32	4.00

SODA AND SALERATUS

	each doz.	
Dwight's, in 1 lb pkg.....	7	75
Arm & Hammer, 1 lb pkg.....	7	75
Twin City, 1 lb pkg.....	5	60

CRACKERS.

F. A. Kennedy & Co's biscuits and fine crackers.
Boxes contain from 20 to 30 lbs., cans 5 to 10, according to the bulk of the goods.

	box	can	lb
Animal.....	13	14	15
Boston Butter.....	10	10	10
Boston Family.....	10	10	10
Cracker Meal.....	7½		10
Coffee Cake.....	11	12	12
Currant Cake.....	11	12	13
Dew Drop Oyster.....	8½		10
Ginger Snaps x.....	9	10	10
Ginger Snaps x x x.....	10	10	12
Grand Mother Cookies.....	11		12
Graham Wafers.....	12	12	15

Prideman & Lewis.

	box	lb
Soda x x x.....	7	8
Soda (select).....	8	9
Oyster x x x.....	7	8
Oyster x.....	6 4lb@25	
Oyster (Daisy).....	8	10

FRESH FRUITS.

Apples.

Northern Spys.....	bbl	4.75
Baldwins.....	"	4.75
Ben Davis.....	"	4.25
Wine Saps.....	"	4.25
Snows.....	"	4.50
Russets.....	"	4.00

Peaches.

Yellow Crawford.....	doz.	40
Crawfords, late.....		30

Grapes.

Concords, 10-lb. basket.....	lb.	30
Muscata, 5 ".....		60
Tokays, 5 ".....		60

Cranberries.

Bell & Bugles.....	qts.	10
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DRIED FRUITS.

Currants.

	whole pkg.	lb.
Zanti, in boxes.....	9	10
Vostezza, in bbl.....	6½	7
California Vost.....	9½	10

Raisins.

	box.	lb.
Loose Muscatels, No. 1.....	2.00	10
" " 2.....	2.40	12½
" " 3.....	2.80	15
Valencia, No. 1, per lb.....	8½	10
" fancy, ".....	9	12½
London, layers.....	3.00	20
Choice, ".....	2.40	15

Prunes.

	whole pkg.	lb.
Turkish, in hlds.....	4½	5
California, in sacks.....	7½	9
" in 25-lb. boxes.....	11	12½
French, (60 size).....	11	12
" (50 size).....	17	20
" fancy, 40 size, in 25-lb. boxes.....	22	25

Apples.

	box.	lb.
Dried, quartered, bbl.....	6½	8
Evaporated, sliced, 50-lb. box.....	9	10
" extra, 50-lb. box.....	10	12

Pears.

California, quartered, per lb.....	17
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Apricots.

	box.	lb.
Evaporated, 25-lb. boxes.....	16	18
" extra.....	18	20

Peaches.

	box.	lb.
Unpared, evaporated, 50-lb. box.....	18	20
Pared, sliced, evaporated, extra, 50 lb. box.....	12½	15
Pared, sliced, evaporated, extra, 50-lb. box.....	18	20
Pared, evaporated, red centres.....	23	25
" fancy.....	28	30

Berries.

	box.	lb.
Blackberries, per lb.....	7	8
" fancy.....	8½	10
Fancy raspberries.....	27	30

SAUCES.

Tomato Catsup.

	doz.	bot.
Hazard's Shrewsbury, pts.....	3.00	30
Curtice Bros' Blue Label, qts.....	4.00	35
" " pts.....	2.75	25
" " ¼ ".....	1.70	15
Snider's, in gal. jugs, each.....		70

HORSE RADISH.

	doz.	bot.
In bottles.....	90	8

PICKLES.

	gal.
Gherkins.....	35
Small.....	30
Medium.....	25
Mixed.....	60
White onions.....	60
Chow Chow.....	60
Sweet gherkins.....	60
" mixed.....	60
" tomatoes.....	70

VINEGAR.

	doz.	bot.
Crosse & Blackwell's malt, qts.....	2.75	25
Crosse & Blackwell's Chilli, pts.....	4.50	41
Crosse & Blackwell's Tarragon, pints.....	4.00	35

	bbl.	gal.
Missouri pure elder, triple str'gth	35	40
Johnson's "	25	30
White Wine, Minn. test.....	18	20
" double strength.....	25	30
" triple	35	40
English malt vinegar.....		50

MINCE MEAT.

National Preserving Co's	
40 lb. pails.....	2.80
20 "	1.50
10 " .....	.80
5 " .....	.45
Per lb.....	8

HAMS AND BACON.

	lb.	lb.
Luley's	10 to 12½	
Haas Bros'	10 to 12½	
O'Leary's.....	10 to 12½	
Dupee's sugar cured.....		15

LARD.

Luley's in 20 lb. pails.....	1.60
" in 10 " .....	.85
" in 5 " .....	.45
" in 3 " .....	.28
" in tubs.....	7½

FISH.

	box.	lb.
Whole cod fish, 100 lb. box.....	6.00	7
Boneless, George's, 40 lb.	2.80	8
Fancy Bank, George's 40 lb. box	3.60	10
	bbl.	
Mackerel, extra bloaters.	25.00	15
" fancy	36.00	20
" No. 1 fat mess, 12 lb.		2.25
kit.....		1.70
Mackerel, No. 1 shore, 12 lb. kit		1.45
" No. 1 bay, 12 lb. kit.....		.40
Herrings, bbl., Labrador.....		1.00
" Holland, kegs.....		1.40
" fancy, kegs.....		.80
" domestic.....		.35
Herrings, dried, box.....		1.00
White fish, mess, 12 lb kits.....		

LAUNDRY SOAP.

	bars in a box	box	\$1.00
Rose Queen.....	100	4 10	23
White Lily.....	100	5.25	17
Kirk's Standard.....	75	2.50	22
Lenox.....	100	4.35	22
Ivory, large size.....	100	7.30	14
Santa Claus.....	100	4.35	22
Babbitt's best.....	100	4.50	22
		doz each	
Morgan's Sapollo.....	3 doz	90	8

Washing Powders.

	doz	pkg
Babbitt's 17½ Powder, large.....	1.20	11
" small .....	.50	5
Soapline .....	.50	5

Potash and Lye.

	doz	can
Concentrated lye, 98 per cent pure	85	8
Babbitt's potash.....	1.10	10

JAMS.

Southwell's

In 1 lb Glass Jars.

	doz	jar
Strawberry	2.75	25
Raspberry	2.75	25
Red currant.....	2.50	23
Greengage	2.75	25
Raspberry and red currant....	2.75	25
Apricot.....	3.00	25
Blackberry	2.75	25
Damson	2.75	25

CANNED FRUITS.

Peaches.

	doz	can
J. H. F. Crawford's, 3 lb can..	3.40	30
Brown's Berkshire, 3 lb " ..	2.50	23
Platt's Favorite, 3 lb " ..	1.90	17
Platt's sliced sug'd, 3 lb " ..	4.00	35
Colton's Whiteheath, 3 lb " ..	2.50	22
Sunrise, yellow, 3 lb " ..	2.15	20
Elk Brand, yellow, 3 lb " ..	2.40	22
Hudson's, 3 lb " ..	1.70	15
Freeman & Shaw, ple, 3 lb " ..	1.10	10

Apricots.

	doz	can
J. H. F. Hemskirk, 3 lb can..	3.25	30
Royal Packing Co., 3 lb " ..	1.95	17
A Lusk's, 3 lb " ..	2.00	18
Reindeer, 3 lb " ..	2.00	18

Pears.

	doz	can
Bengal Brand, 3 lb can.....	2.70	25
Burgess & Bughe, 3 lb " ..	2.25	20
Winebrenner's, 2 lb " ..	1.10	10

Greengages.

	doz	can
J. H. F., 3 lb can.....	3.25	30
Lion Brand	1.90	17

Egg Plums.

	doz	can
Butte Packing Co., 3 lb can.....	1.90	17
J. H. F., Extra.....	3.25	30

Damsons.

	doz	can
Cutting Packing Co., 3 lb can..	1.90	16

Strawberries.

	doz	can
Batavia Pre. Co., 2 lb can.....	3.10	30
Platt's, 2 lb " ..	2.85	25
Wagner & Co's, 2 lb " ..	1.75	15
Hemingway's, 2 lb " ..	1.00	10

Raspberries.

	2 lb cans.	doz	can
Batavia Pre. Co., black.....		2.25	20
Curtice Bros., black.....		1.90	18
Skinner & Loudon, black.....		1.35	12½
Winebrenner, black.....		1.75	15
Excelsior, black.....		1.10	10

Blackberries.

	doz	can
Batavia Lawtons, 2 lb can.....	2.40	22
Burgess & Bughe, 3 lb " ..	1.10	10
Burgess & Bughe, 2 lb " ..	.75	7

Apples.

	doz.	can.
Belpre, 3 lb. can.....	.75	7
Gowanda, 1 gal. can.....	2.75	25
Genesee, York State, gal.....	2.75	25

CANNED VEGETABLES.

Corn.

	doz.	can.
Batavia, 2 lb. can	1.90	16
Thurber's Baby "	2.40	22
Genesee, 3 lb. can	1.50	15
" 2 lb. can	1.35	12½
Curtice Bros.	1.90	18
Bloisvale.....	1.00	10
Onelda County .....	.75	7
La Crescent.....	.55	5

Tomatoes.

	doz.	each
Onelda, 3 lb. can.....	1.00	15
Dew Drop, whole, "	1.90	18
Lion Brand "	1.25	12½
Moran " .....	.80	8
Trophy, gal. can.....	3.00	10

FISH.

Domestic Sardines.

	doz.	tin.
Boutier in oil, $\frac{1}{4}$ S.....	1.10	10
" " $\frac{1}{4}$ S.....	.75	7
Chavet " $\frac{1}{4}$ S.....	1.75	15
" " $\frac{1}{4}$ S.....	1.00	10
Pickert, in mustard.....	.90	8

White Fish.

	doz.	can.
Wickham's, broiled tomato sauce, large.....	2.75	25
Wickham's broiled tomato sauce, small.....	1.50	12½

Salmon.

	1 lb. can.	
Cook's steak.....	2.75	25
Booth, ".....	2.25	20
" ".....	3.45	35
Richelieu, ".....	2.30	20
Aster, ".....	1.65	15
Eclipse, ".....	1.65	15

Lobsters.

	1 lb. can.	
Star Packing Co., ".....	2.25	20
" ".....	3.50	35
Richlieu, ".....	2.25	20
Burnham & Morrill, $\frac{1}{2}$ lb. can.....	1.75	15

Oysters.

	1 lb. can.	
Booth, Old Honesty brand.....	1.10	10
" ".....	1.80	18
Mallory, standard, 1 lb. can.....	1.00	10
" ".....	1.50	15

TOBACCO.

Smoking Tobacco.

	lb.
Tube Rose.....	35
Blackwell's Durham.....	60
Lentucky Long Out.....	35

Plug Tobacco.

Piper Heidsieck.....	65
Climax.....	45

MEAT AND FISH.

	per lb.	
Beef roast.....	8 to 12½	
Beef steak.....	7 to 15	
Beef boll.....	3 to 6	
Pork roast.....	6 to 10	
Pork steak.....	8 to 10	
Salt pork.....	8 to 10	
Veal roast.....	8 to 12½	
Veal steak.....	10 to 15	
Veal Stew.....	4 to 8	
Mutton roast.....	8 to 15	
Mutton chops.....	10 to 15	
Mutton stew.....	3 to 6	
Lamb roast.....	8 to 15	
Pork sausage.....	8 to 10	
Hams.....	11 to 12½	
Bacon.....	11 to 12½	
Lard.....	8 to 10	
Fish.....	8 to 12½	
Oysters.....	qt. 40 to 50	

BOOTS AND SHOES.

Infants' Shoes.

For babies from 3 months to 2 years old.
Sizes 0 to 6, sewed and turned.

Kid, soft soles, prices.....	25c to .50
Kid, in colors and soft soles.....	30c to .60
Goat, with sole-leather soles.....	50c to \$1.00
Bright Dongola and French kid, sole-leather soles.....	50c to 1.35

Children's Shoes.

For children from 2 to 5 years old.—Sizes 4 to 8, sewed and turned, with spring heel.

Grain leather.....	60 to \$1.00
Goat leather.....	75 to 1.25

Bright Dongola kid..... 75 to 1.50
French kid..... \$1.00 to 2.00
Same as above in machine sewed, spring heel and heel.

Grain leather..... 50c to .85
Goat leather..... 60c to \$1.00
Bright Dongola kid..... 60c to 1.25
French kid..... 75c to 1.75
For Children from 5 to 8 Years old.—Sizes 8 to 11, Heel and Spring Heel.
Grain leather, machine sewed and standard screw, or nailed..... .75 to \$1.25
Goat leather, machine sewed \$1.00 to 1.75
Bright Dongola kid, machine sewed..... 1.25 to 2.00
Bright Dongola, hand turned 1.25 to 2.00
French kid, machine sewed... 1.50 to 2.50
French kid, hand turned..... 1.50 to 3.00

Misses' Shoes.

For Girls from 8 to 12 Years old.—Sizes from 11 to 2, Heel and Spring Heel.

Grain leather, machine sewed and standard screw, or nailed..... \$1.00 to \$1.50
Goat leather, machine sewed 1.25 to 2.00
Bright Dongola kid, M. S. and turned..... 1.50 to 2.50
French kid, M. S. and turned 2.00 to 3.50

Ladies' Shoes.

Sizes from 2½ to 8.

Grain leather, machine sewed standard screw, or nailed... \$1.50 to \$2.50
Goat leather, machine sewed 1.75 to 3.00
Goat leather, hand sewed... 3.00 to 4.50
Goat leather, Goodyear welt. 2.50 to 4.00
Bright Dongola kid M. S..... 1.75 to 3.50
Bright Dongola kid, hand turned..... 2.50 to 4.00
Bright Dongola, hand welt... 3.00 to 5.00
Bright Dongola, Goodyear welt..... 2.50 to 4.00
French kid, M. S..... 3.00 to 5.00
French kid, hand turned..... 3.50 to 6.00
French kid, hand welt..... 4.00 to 6.00
French kid, Goodyear welt... 3.50 to 6.00

Youths' Shoes.

Sizes 11 to 2.—For boys from 8 to 12 years old.

Grain, buff, and split leather, machine sewed, standard screw and nailed, button and lace..... 1.25 to 2.00
Calf skin, machine sewed standard screw and nailed. 1.50 to 3.50

Boys' Shoes.

Sizes 2½ to 5½.—For boys from 12 to 16 years old.

Grain, buff and split leather, machine sewed, standard screw and nailed, button, lace or congress..... 1.50 to 2.50
Calf skin, machine sewed standard screw and nailed. 1.75 to 3.50
Boys' American Calf, hand sewed and Goodyear welt... 3.00 to 5.00
Boys' French Calf, hand sewed and Goodyear welt..... 3.50 to 6.00

Men's Shoes.

Sizes 6 to 12.

Oil Grain, Buff, Split, and Kip: Button, Lace, and Congress.
Machine sewed, Standard screw, nailed and pegged... 1.50 to 3.00
American Calf, machine sewed, Standard screw and nailed... 2.00 to 4.00
American Calf, Goodyear welt 3.00 to 5.00
French " " " 4.00 to 6.50
American " hand " 4.00 to 7.00
French " " " 5.00 to 8.00

One Mile.

Six room house, city water, bath, furnace, etc., one block from car line.....	\$20.00
Six room house and barn, well, two blocks from car line.....	20.00
Five room flat, city water and bath, one block from car line.....	16.00
Six room flat, city water and bath, one block from car line.....	20.00
Eight room house, city water, bath, one block from car line.....	28.00
Eight room house, city water, bath, one block from car line.....	30.00

One and One-fourth Miles.

Four rooms, down stairs, one block from car line, cistern.....	\$14.00
Six room house, well, two blocks from car line.....	16.00
Five room house, well and cistern, on car line.....	13.50
Seven room house, well and cistern, one block from car line.....	18.00
Seven room house, city water, two blocks from car line.....	25.00
Six room house, city water, on car line.....	22.00
Nine room house, city water and bath, (new) one block from car line.....	31.50
Ten room house, and barn, city water, bath, cistern, etc., two blocks from car line.....	35.00

One and One-half Miles.

New eight room house, well, bath, etc., two blocks from car line.....	\$25.00
Five room flat, city water, on car line.....	12.00
Six room house, city water, on car line.....	17.00
Eight room house, city water, on car line.....	22.00
Nine room house, city water, bath, furnace, etc., two blocks from car line.....	30.00
Five room house, well and cistern, two blocks from car line.....	16.00
Five room flat, city water, on car line.....	15.00
Six room house (new,) city water, two blocks from car line.....	18.00
Seven room house, city water, two blocks from car line.....	18.00

One and Three-fourths Miles.

Four rooms down stairs, city water and bath, one block from car line.....	\$10.00
Four rooms up stairs, city water and bath, one block from car line.....	8.00
Nine-room house, city water and cistern, one block from car line.....	18.00
Six-room house, well, three blocks from car line.....	14.00

Two Miles.

Four-room cottage, well and barn, six blocks from car line.....	\$10.00
Six-room house, city water, four blocks from car line.....	12.00
Three rooms up stairs, well, five blocks from car line.....	6.00
Four rooms up stairs, well, two blocks from car line.....	8.00
Seven room house, city water and bath, on car line.....	20.00
Nine room house, city water, bath, etc., one block from car line.....	28.00

Two and One-fourth Miles.

Four room cottage, well, four blocks from car line.....	8.00
Six room house, well and cistern, two blocks from car line.....	15.00
Eight room house, well, cistern and barn, three blocks from car line.....	20.00
Eight room house, well and cistern, three blocks from car line.....	18.00
Four rooms, up stairs, well, two blocks from car line.....	8.00
Four rooms, down stairs, well, two blocks from car line.....	10.00

Two and One-half Miles.

Eight room house, well, one block from car line.....	12.00
Eight room house, well and cistern, four blocks from car line.....	10.00
Four room cottage, well, three blocks from car line.....	8.00
Six room house, cistern, three blocks from car line.....	10.00
Five room house, no water, four blocks from car line.....	8.00
Six room house, well and cistern, one block from car line.....	16.00

Two and Three-fourth Miles.

Seven room house, well and cistern two blocks from car line.....	15.00
Five room house, well, one block from car line.....	10.00
Four rooms, up stairs, well, two blocks from car line.....	8.00
Six room house, well and cistern, two blocks from car line.....	15.00
Four room cottage and barn, well, three blocks from car line.....	10.00
Five room house, well and cistern, two blocks from car line.....	15.00

Three Miles.

Five room house, well, four blocks from car line.....	10.00
Five room house, well and cistern, eight blocks from car line.....	10.00
Four room cottage, well, six blocks from car line.....	6.00
Nine room house, well and cistern, (new) one block from car line....	25.00
Four room cottage, well, two blocks from car line.....	10.00

FUEL.

COAL.

Anthracite.

	Ton.	½ Ton.	¼ Ton.
Nut.....	\$7.50	\$4.00	\$2.25
Stove.....	7.50	4.00	2.25
No. 4.....	7.50	4.00	2.25
Egg.....	7.50	4.00	2.25
Grate.....	7.25	3.90	2.20
Pea.....	5.00	2.75	1.65
Broken Nut or Cargo Pea.....	6.00	3.25	1.90

Cross Creek Lehigh.

Nut.....	\$7.75	\$4.10	\$2.30
Stove.....	7.75	4.10	2.30
Egg.....	7.75	4.10	2.30
Grate.....	7.75	4.10	2.30

Bituminous Coals and Coke.

	Ton.	½ Ton.	¼ Ton.	At yard Ton.	At y'd. per 100 lbs. in lots less than 500 pounds.
Indiana Cannel.....	\$5.00	\$2.75	\$1.65	\$4.50	\$.40
West Virginia Cannel.....	7.50	4.00	2.25	7.00	.50
Briar Hill.....	7.00	3.75	2.15	6.50	.50
Youghiogheny, Mansfield and like grades..	6.00	3.25	1.90	5.50	.50
West Virginia Splint.....	6.00	3.25	1.90	5.50	.50
Ohio, all grades.....	5.75	3.15	1.80	5.25	.40
Illinois.....	4.50	2.50	1.50	4.00	.40
Cumberland.....	6.75	3.65	2.05	6.25	.50
Morris Run, Bloss.....	6.75	3.65	2.05	6.25	.50
Gas Coke.....	7.00	3.75	2.15	6.50	.50
Connellsville Coke.....	9.00	4.75	2.65	8.50	.60

Charcoal.

Per barrel at yard.....	\$1.00
Per barrel delivered.....	1.25
Per bushel.....	.25
Per bushel, delivered in lots not less than 10 bushels.....	.25

<i>Prices for Carrying.</i>	Ton.	½ Ton.	¼ Ton.
Ground floor.....	\$.50	\$.25	\$.25
1 flight.....	.75	.40	.25
2 flights.....	1.00	.60	.35
3 flights.....	1.50	.75	.40

In lots of 4 tons and upward coal may be carried at the rate of \$2.00 per day.

WOOD.

Dry Mill.

	One-half load.	One load.	Two loads.	Three loads.	Six loads.
Gang wood.....	\$1.15	\$1.75	\$3.20	\$4.50	\$8.00
Mixed wood.....	1.25	2.00	3.70	5.25	9.50
Slab wood.....	1.40	2.25	4.30	6.30	12.00
Dimension wood.....	1.40	2.25	4.30	6.30	12.00

All orders for two, three, or six loads, at above prices, must be for immediate delivery to one place and at one time.

Dimension.....	\$2.25	\$1.35
Gang blocks all long.....	1.75	1.15
Gang blocks, short, 16 in. and under.....	2.00	1.25
Dimension blocks, all lengths.....	2.25	1.35
Dimension blocks, sawed.....	2.50	1.50

	Cord.	$\frac{1}{2}$ Cord.
Four foot edgings, tied.....	\$2.25	\$1.35
Four foot edgings, loose.....	1.90	1.20
Four foot slab.....	4.50	2.00
Four foot mixed.....	3.25	1.90

Carrying Dry Mill Wood.

	Cart Load.	$\frac{1}{2}$ Cart Load.
Ground floor.....	50	40
One flight.....	75	50
Two flights.....	\$1.00	75
Three flights.....	1.25	\$1.00

Cord Wood.

	FOUR FOOT.			SAWED.			SAWED AND SPLIT.		
	1	$\frac{1}{2}$	$\frac{1}{4}$	1	$\frac{1}{2}$	$\frac{1}{4}$	1	$\frac{1}{2}$	$\frac{1}{4}$
Maple.....	\$6.50	\$3.50	\$2.00	\$7.25	\$3.90	\$2.20	\$8.00	\$4.25	\$2.40
Birch and Oak.....	5.50	3.00	1.75	6.25	3.40	1.95	7.00	3.75	2.15
Bass.....	4.50	2.50	1.50	5.25	2.90	1.70	6.00	3.25	2.40
Maple, 3 cut.....				7.50	4.00	2.25	8.50	4.50	2.50
Oak, 3 cut.....				6.50	3.50	2.00	7.50	4.00	2.25
Bass, 1 cut.....				5.00	2.75	1.65			
Maple, 1 cut.....				7.00	3.75	2.15			
Oak, 1 cut.....				6.00	3.25	1.90			

Carrying Cord Wood.

Ground floor.....	75	40	25
One flight.....	\$1.00	60	35
Two flights.....	1.25	70	40
Three flights.....	1.50	\$1.00	60

CHAPTER V.

MINE INSPECTION.

In June, 1889, complaint came to this office that the mines at Ely, in this state, were not conducted with proper regard to the safety of the men employed therein. Fatal accidents were said to be too common, and a request was made that an inspector should visit the mines.

I accordingly went, in person, to the mines at Ely, and was shown through a part of them by Capt. Roberts, of the Chandler mine.

After I had been through the mine I told Capt. Roberts that, not being an experienced miner, I would not undertake to make a report upon the condition of the mine until I had gone through it with an expert miner and taken his testimony.

I accordingly sought for such a man that evening at Ely, but found none who were willing to do the work, for the reason, as one of them expressed it, that "the company would say they were interfering in a matter that was none of their business."

One experienced man told me that, as a general rule, only the new men were killed, for experienced men would not go into dangerous places, and for himself, if he was ordered to do so, he simply refused. Desiring to have his opinion as an expert, I told him that, while in the mine, I had seen two young men picking the dirt out from under a large stone at the end of a drift, and had, at the time, asked Captain Roberts if he did not consider that dangerous work, and he had replied that it would be for inexperienced men. I had asked the miners what they proposed to do in case the rock fell, and they had told me that they would watch which way it was coming and jump aside.

It seemed to me that there was little chance for the men to get out of the way in case there was a heavy fall of earth with the stone. The miner refused to express an opinion, merely stating that he did not want to say anything about it.

As I could not secure the services of any man in Ely, I went

to Duluth and employed Captain James A. Nichols, a miner of thirty years experience, and, with him, returned to Ely.

Capt. Roberts, upon seeing us, pretended to be very much offended on account of the conversation I had with the miner about the falling stone. I then went to Supt. Pingilly, and told him that I had with me Capt. Nichols, an expert miner, with whom I desired to go through the mine. Capt. Pingilly also affected great indignation, and flatly told me that I could not go through, and that he refused to recognize me as a state officer; adding that, if I attempted to oppose him, he would run me out of town. As I had no legal authority to bring Capt. Nichols into the mine, and, as it would have been useless and impossible for me to go through alone, I decided to secure the testimony of some miners, under oath, as to the condition of the mine, but could not find any who were willing to testify.

I concluded, however, that the mine needed inspection, and that it would have to be inspected. So just previous to the issuance of this report, I went to Duluth and secured the services of two experienced miners, August Wickstrom and Eric Carlson, who proceeded to Ely and made the inspection without consulting Mr. Pingilly.

I present below their sworn testimony :

STATE OF MINNESOTA, { ss
COUNTY OF ST. LOUIS. }

We, the undersigned, August Wickstrom and Eric Carlson, being each duly sworn, each for himself, deposes and says :

That we have inspected the mines at Ely and find their condition to be as follows :

CHANDLER MINE.

Shaft No. 1.—The outside part of this shaft is very well timbered, but the man-way is in very bad shape. There are some places where there is no lining between the man-way and the cage-way. This lining is very necessary. There are no safety hooks on the cages and no guards on trestle. Clear creek water is used in the boiler at this engine-house. There is no work being done in level No. 1. Level No. 2 is in very bad shape. The timber is breaking right as we are in here. There are men here fixing up the cave, so we can not get in where the biggest part of the mining is going on. Level No. 3 is more solid, but the timber is very weak, so if the ground commences to settle down there would be nothing to hold it. Level No. 4 is in bad shape. The timber is broken off, and pressed in from the sides so that they cannot get through with the cars. They have cut some of the broken timbers out, and there does not seem to be anything holding the ground. Will have to be re-timbered.

Shaft No. 2.—In this shaft the man-way is all right down to the third level, but between the third and fourth level the men have to get out into the hoisting shaft for a distance of 30 or 40 feet to get down to the fourth level. There are no safety hooks on cages or guards on trestle. A man could walk right off and fall down trestle. In the engine-house for this shaft the water is dirty. It is taken right out from the mine, and the fireman complains that he cannot keep the boilers clean. The boilers are foaming. There is no work being done in Levels Nos. 1 and 2 of this shaft.

They are working in Level No. 3, but it is in very bad shape. The timber is breaking and the ground is falling right as we are in here. Level No. 4 is more solid, but is very wide. There is some loose rock in the roof. Can be barred down and made solid. The facings in the drift are in pretty good shape, but the timber is a little behind. It will have to be followed up closer.

There is not a set of solid mining timber in the Chandler mine so far as the stopping is concerned.

PIONEER MINE.

Shaft No. 1.—The ladders in man-way are good, but there is no lining between the cage-way and the ladder-way. There is a space from twelve to fifteen inches wide between the man-way and the wall of the shaft which is not guarded in some parts of the shaft. Down near the bottom there is a very close place to get down in case the pump is standing right in the man-way. No cage hooks on cages and no guards on trestle. Dirty water used in boilers. There is no work being done in the first and second levels. They are working in the third level, and it is in pretty good condition.

Shaft No. 2.—The shaft is very small for the first sixty feet down, and then it gets wider. A man has to go into the hoisting shaft, the ladder-way being in the cage-way, and there is not room for the man and the cage at the same time. The water used in boilers is dirty. There are no hooks on cages and no guards on trestle. There is no work in the first and second levels. The work in the third level is done in good order, the shaft is well timbered, except at the bottom, where the drift cuts out, there should be another set of timbers put in. There are some loose rocks.

Subscribed and sworn to before me, and in my presence, this September 17, 1890.

JNO. JENSWOLD, Jr.,

Notary Public, St. Louis County, Minn.

After leaving the Chandler mine, I went with Capt. Nichols to the mines at Tower. Here the shafts were well timbered, their mouths guarded by gates, and the ladders in good shape. Men are constantly employed barring the loose rock from the walls of the open pits. So far as I could judge, reasonable precautions were taken for the safety of the men. Capt. Nichols, after spending a day with me in the mine, submitted the following report:

DULUTH, MINN., August 9th, 1889.

John Lamb, Commissioner of Labor:

DEAR SIR—In my visit and going through the Minnesota Company's mines at Tower, will say, I think the present company are using all necessary care and precaution in working the mine, as to safety and comfort of men employed.

Yours truly, JAMES A. NICHOLS.

The following is a list of fatal accidents which occurred at the Chandler mine during the first six months of the year 1889:

February 1, 1889, John E. Ogren, killed by putting his head in the hoisting shaft, taking out a plank, himself, to look in.

April 4, 1889, John Erickson, foreman, killed by a fall of ground in No. 1 Skip Road pit, by going into his place after blasting.

June 13, 1889, Nat. Hanala, a Finlander, killed by a fall of ground in No. 1. open pit. by going in after a blast.

June 22, 1889, Louis Hanson, killed by putting his head in No. 2 cage shaft, while on his way to the surface ahead of time. In trying to avoid detection of foreman he crawled in on the wall plate of shaft.

Record of fatal accidents occurring at the Tower mines during the first six months of the year 1889:

March 6, 1889, Henry Corpe, trammer, killed by a falling rock from hanging wall in No. 8 pit.

May 6, 1889, Matt. Wilson, miner, killed by a falling rock from hanging wall in No. 1 pit.

June 1, 1889, Nels Hendrickson, pit boss, killed by a fall of rock striking him on back and legs.

June 10, 1889, Charles Johnson, lander, killed by falling into shaft, while shoving car onto cage; cage having been sent down previously by himself.

July 30, 1889, Frank Mismas, trammer, killed by a piece of ore falling out of the roof and striking him on the head.

There were about three times as many men employed at the Tower mines, when these accidents occurred, as there were at the Chandler. The percentage of fatal accidents at the Chandler was, therefore, much higher during the six months considered.

It is proper to state that this Bureau has no legal authority at present to order any improvements in workshops, mines, or factories. It has merely the right of *inspection*. The Factory Inspection Act, which was intended to give the necessary authority to the commissioner, failed of passage in the last legislature. That such a law is needed, and urgently needed, there can be no question. One of the inspectors should be an expert miner. The law should be so carefully framed that the penalty for its violation could be imposed promptly and certainly, and without tedious litigation. The law under which this Bureau is acting makes it the duty of the commissioner to "see to it that all laws regulating the employment of children, minors, and women, and all laws established for the protection of the health and lives of operatives in workshops, factories, and all other places, where labor is employed, are enforced." This phraseology gives the impression that there are some such enactments on the statute books of the state; but the number and importance of such laws, at present in force, dwindle materially when they come to be examined. The best that we have on the subject of child labor is a proviso that children shall not be permitted to work more than ten hours per day! The best

for the protection of wage working women is that they shall not be *compelled* to work more than ten hours daily; and one employer, whom I ordered to desist from working his female help twelve and one-half hours per day, simply discharged them. and, in hiring again, required them to sign a voluntary agreement to work twelve hours and one-half. Literally, this would not be compulsion, for, by the terms of their engagement, they voluntarily agreed to work the extra hours.

X Mining is dangerous work at best, and it is inevitable that accidents will occur. Some accidents are clearly traceable to the carelessness of the men themselves, some to the inevitable risks of mining, but others, not few in number, are traceable to lack of proper safeguards for life and limb. There is no excuse for these latter cases, except sheer greed or carelessness, and such reckless indifference to the loss of human life should be rigorously checked by the collective authority of the whole people.

CHAPTER VI.

LABOR LAWS.

CHAPTER 24.

GENERAL STATUTES OF 1878.

Regulation of Labor:

SECTION 1. In all manufactories, workshops, and other places used for mechanical and manufacturing purposes in this state, where children under the age of eighteen years and women are employed, the time of labor of the persons aforesaid shall not exceed ten hours for each day; and any owner, stockholder, or overseer, employer, clerk or foreman who compels any woman or any child under eighteen years of age to labor in any day exceeding ten hours, or permits any child under the age of fourteen to labor in any factory, workshop, or other place used for mechanical or manufacturing purposes, for more than ten hours in any one day, where such owner, stockholder, overseer, clerk, or foreman has control, such person so offending shall be liable to a prosecution in the name of the State of Minnesota, before any justice of the peace, or court of competent jurisdiction, of the county wherein the same occurs, and, upon conviction thereof, shall be fined in any sum not less than ten or more than one hundred dollars.

SEC. 2. In all engagements to labor in any mechanical or manufacturing business, a day's work, when the contract of labor is silent upon the subject, or when there is no express contract, shall consist of ten hours, and all agreements, contracts, or engagements, in reference to such labor, shall be so construed.

CHAPTER 205.

AN ACT TO REGULATE EMPLOYMENT BUREAUS OR OFFICES.

SECTION 1. No person shall engage in the business of keeping an employment bureau or office, or agency, for the purpose of hiring men to work for others, and receive a compensation for such hiring, without first having obtained a license so to do, as hereinafter provided; and any person who shall engage in such business without such license shall be guilty of a misdemeanor, and shall, upon conviction thereof, be punished by a fine not exceeding one hundred (100) dollars, or imprisonment in the county jail not exceeding ninety (90) days, or both.

SEC. 2. Any person who desires to engage in said business may apply to the common council, if such business is to be carried on in a city, or to the village council, if in a village, or to the county commissioners of the county in which such business is to be carried on, if in the country, for such license, and upon paying into the treasury of such city, village, or county the sum of one hundred (100) dollars, and upon executing and delivering to such common council, village council, or county commissioners, a bond in the penal sum of ten thousand (10,000) dollars, with sufficient sureties, to be approved by such common or village council or county commissioners, he shall be entitled to such license.

SEC. 3. The bond shall run to the state of Minnesota, and shall be conditioned for the payment of any damage which any person secured or

engaged to labor for others by the obligor may sustain by reason of any unauthorized act, fraud, or misrepresentation on the part of such agent, for such hiring. The bond shall be filed with the city clerk, if approved by the common council, with the village recorder, if approved by a village council, and with the county auditor, if approved by the board of county commissioners. Any person licensed and having given bond, as herein provided, may, while continuing to reside or maintain his office at the place mentioned in such license, prosecute his said business in any part of the state.

SEC. 4. Any person hired or engaged to work for others, by one so licensed, as aforesaid, who shall fail to get employment according to the terms of such contract of hire or engagement by reason of any unauthorized act, fraud, or misrepresentation on the part of such agent, may bring an action upon said bond, and may recover in such action against the principal and sureties the full amount of his damages sustained by reason of such unauthorized act, fraud, or misrepresentation, together with his cost and disbursement in such action.

Approved February 28, 1885.

CHAPTER 206.

AN ACT TO REGULATE THE LABOR OF LOCOMOTIVE ENGINEERS AND FIREMEN.

SECTION 1. On 'all lines of railroad operated in this state the time of labor of the locomotive engineers and firemen employed in running or operating the locomotive engines on or over such roads shall not at any time exceed eighteen (18) hours during one day; *provided, however*, that nothing in this section shall be construed as allowing any locomotive engineer or fireman to desert his locomotive in case of accident or other unavoidable delay.

SEC. 2. Any officer, director, superintendent, master mechanic, foreman, agent, or employe who compels any locomotive engineer or fireman to labor, in running or operating any locomotive engine on or over such roads, for more than eighteen (18) hours during one day, except as provided in section one (1) of this act, or in cases of urgent necessity, such person so offending shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine of not less than twenty-five (25) or more than one hundred (100) dollars.

Approved March 7, 1885.

CHAPTER 59.

AN ACT TO AMEND SECTION TWO (2) OF CHAPTER TWO HUNDRED AND SIX (206) OF THE GENERAL LAWS ONE THOUSAND EIGHT HUNDRED AND EIGHTY-FIVE (1885) RELATING TO THE LABOR OF LOCOMOTIVE ENGINEERS AND FIREMEN.

SECTION 1. That section two (2) of chapter two hundred and six (206) of the General Laws of one thousand eight hundred and eighty-five (1885) be and the same is hereby amended by striking out the words "or in cases of urgent necessity" in the sixth (6) and seventh (7) lines of said section, and by adding to said section the following: "And provided, further, that all railroad corporations, operating lines of road in this state, shall be liable for all injuries to its engineers or firemen resulting from their being obliged to labor for a longer period in any one (1) day than that specified in section one (1) of this act, and that nothing in this section shall be construed as allowing any locomotive engineer or fireman to desert his locomotive in case of accident or unwarrantable delay."

SEC. 2. All acts or parts of acts inconsistent with this act are hereby repealed.

Approved February 28, 1887.

CHAPTER 2.

AN ACT PROPOSING AN AMENDMENT TO SECTION TWELVE (12) OF ARTICLE (1) OF THE CONSTITUTION OF THIS STATE, BY ADDING THERETO A PROVISOR TO PROTECT THE RIGHTS OF WORKING MEN AND WOMEN IN CERTAIN CASES.

SECTION 1. That the following amendment to section twelve (12) of article one (1) of the constitution of the state of Minnesota is hereby proposed to the voters of the state; that is to say, that said section twelve (12) of article one (1) be amended by adding thereto the following proviso:

"Provided, however, that all property so exempted shall be liable to seizure and sale for any debts incurred to any person for work done or materials furnished in the construction, repair, or improvement of the same; and provided, further, that such liability to seizure and sale shall also extend to all real property for any debt incurred to any laborer or servant for labor or service performed."

SEC. 2. This proposed amendment shall be submitted to the people of this state, for their approval or rejection, at the next general election; and each of the legal voters of said state may, in their respective districts, at said election, vote by ballot for or against said amendment, and the returns thereof shall be made and certified and such votes canvassed, and the result thereof declared, in the manner provided by law for returning, certifying, and canvassing votes at general elections for state officers, and declaring the result thereof; and if it shall appear therefrom that a majority of the voters present and voting at such election, upon such amendment, have voted in favor of the same, then within three (3) days thereafter the governor shall make proclamation thereof, and such amendment shall thereupon take effect and be in full force as part of said constitution.

SEC. 3. The ballots used at said election by those voting in favor of said amendment shall have written or printed, or partly written and partly printed thereon, the following words:

"Amendment to section twelve (12) of article one (1) of the constitution of this state, for protection of rights of workingmen or women—Yes." And the ballots used at said election by those voting against such amendment shall have written or printed, or partly written and partly printed thereon, the following words: "Amendment to section twelve (12) of article one (1) of the constitution of this state, for protection of rights of workingmen or women—No."

Approved February 21st, 1887.

Amendment adopted by vote of the people November 6th, 1888.

CHAPTER 115.

AN ACT ESTABLISHING A BUREAU OF LABOR STATISTICS, AND APPROPRIATING MONEY FOR THE MAINTENANCE THEREOF. [ALL BUT SECTION 4 AMENDED IN 1889.]

SECTION 4. The commissioner of the bureau shall have power to issue subpoenas, administer oaths, and take testimony in all matters relating to the duties herein required by said bureau; such testimony to be taken in some suitable place in the vicinity to which such testimony is applicable. Witnesses subpoenaed and testifying before the commissioner shall be paid the same fees as witnesses before a circuit court, such payment to be made from the contingent fund of the bureau.

CHAPTER 244.

AN ACT TO AMEND SECTIONS ONE (1,) TWO (2,) THREE (3,) FIVE (5,) AND SIX (6,) OF CHAPTER ONE HUNDRED AND FIFTEEN (115) OF THE GENERAL LAWS OF EIGHTEEN HUNDRED AND EIGHTY-SEVEN (1887) RELATING TO THE BUREAU OF LABOR STATISTICS.

SECTION 1. That sections one (1,) two (2,) three (3,) five (5,) and six (6,) of chapter one hundred and fifteen (115) of the General Laws of one thousand eight hundred and eighty-seven (1887,) be and the same are hereby amended so as to read as follows:

SEC. 1. That the governor, with the advice and consent of the senate, is hereby authorized and directed to appoint, as soon after the passage of this act as may be, and thereafter biennially on the first (1st) Monday in the month of January, a suitable person to act as Commissioner of Labor Statistics, and with headquarters at the capitol.

SEC. 2. The duties of such bureau shall be to collect, assort, systematize, and present, in biennial reports to the legislature, on or before the first (1st) Monday in the month of January, statistical details relating to different departments of labor in the state, especially in relation to the commercial, industrial, social, educational, and sanitary condition of the laboring classes, to visit and examine factories, workshops, and all other places where people are employed at any kind of labor, and for this purpose the commissioner, or his deputy, shall have power to enter the same, interview employes, examine into the methods of protection from danger to employes, and unsanitary conditions in and around the establishment, and make a record thereof. He shall see to it that all laws regulating the employment of children, minors, and women, and all laws established for the protection of the health and lives of operatives in workshops, factories, and all other places where labor is employed are enforced, and in case the commissioner or his deputies shall discover any violations of, or neglects to comply with the law in regard to child labor, hours of labor for women or children, protection to the health or lives of employes, and similar enactments now or hereafter to be made, he shall notify the owner or occupant of such factory, workshop, or other establishment, where labor is employed, in writing, of the offense or neglect, and if such offense or neglect is not corrected or remedied within thirty (30) days after the service of the notice aforesaid, or if the officer of the bureau is refused admission to any establishment, where labor is employed, the commissioner shall lodge formal complaint with the county attorney of the county in which the offense is committed or the neglect occurs, whereupon that officer shall proceed at once against the offender according to law, and shall, without further aid or presence of the commissioner of the bureau or his deputy, secure the necessary witnesses and evidence for the complete information of the jury. The commissioner shall, in his biennial report, give an account of all violations of the above named laws which have been observed by the officers of the bureau, and his proceedings under the same, together with such remarks, suggestions, and recommendations as he may deem necessary.

SEC. 3. Every employer of labor shall, upon request, permit the commissioner of the bureau or his deputy to enter his factory, workshop, or other establishment, where labor is employed, and shall make to such bureau of labor statistics such reports and returns as the said bureau may require for the purpose of compiling such labor statistics; such reports and returns to be verified by the owner or business manager of such concern if the commissioner or his deputy so desires; and the said bureau may, for such purpose, prescribe blank forms, which shall be furnished by the secretary of state, and every employer who shall refuse to permit the commissioner of the bureau or his deputy to enter his factory or workshop or other place, where people are employed, or who shall fail to make such reports or returns within the time prescribed therefor, shall forfeit the sum of ten (10) dollars for each and every day the same shall be delayed. All such forfeits shall be sued for in the name of the State of Minnesota, and shall be paid into the school fund. The biennial report of the commissioner of labor statistics, provided for by section two (2) of this act, shall be printed in the same manner and under the same regulations as the reports of the executive officers of the state; *provided*, that not less than one thousand (1,000) nor more than three thousand (3,000) copies of the report shall be distributed as the judgment of the commissioner may deem best.

SEC. 5. The compensation of said bureau shall be fifteen hundred (1,500) dollars annual salary for the commissioner, one thousand (1,000) dollars annual salary for the clerk, and one thousand (1,000) dollars annual salary for each deputy, and a sum not exceeding two thousand (2,000) dollars per annum shall be allowed for the necessary traveling and con-

tingent expenses of the bureau. The commissioner shall appoint a clerk and two deputies, whose names shall first be submitted to the governor for his approval; and said commissioner shall not appoint any clerk or deputy whose name so submitted to the governor is not by him approved, who shall be empowered to act as factory inspectors in addition to their duties as deputies of the bureau.

SEC. 6. There is hereby annually appropriated out of any money in the treasury, not otherwise appropriated, the sum of six thousand and five hundred (6,500) dollars, or so much thereof as may be necessary to carry out the provisions of this act.

SEC. 2. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

Approved April 24, 1889.

CHAPTER 255.

AN ACT TO PROVIDE FOR AND REGULATE THE EMPLOYMENT OF CONVICTS IN THE STATE PRISON AT STILLWATER, AND TO REPEAL CHAPTERS ONE HUNDRED AND NINETY-SEVEN (197) AND ONE HUNDRED AND SIXTY-SIX (166) OF THE GENERAL LAWS OF ONE THOUSAND EIGHT HUNDRED AND EIGHTY-SEVEN (1887.)

SECTION 1. It shall be the duty of the court in which any person shall be convicted of any offense punishable in the state prison, before passing the sentence, to ascertain, by the examination of such convict on oath, and in addition to such oath, by such other evidence as can be obtained, the business, if any, in which such convict had been engaged prior to such arrest and conviction; whether such convict had learned and practiced any mechanical trade, and, if so, the nature of such trade and length of time the same has been followed, and the clerk of the court shall enter the facts as ascertained and decided by the court on the minutes thereof, and shall deliver a certificate, fully stating the facts so ascertained, to the sheriff of the county, who shall cause the same to be delivered to the warden of the state prison at the same time that such convict is committed to the care of said warden pursuant to his sentence.

SEC. 2. Every person convicted of crime and committed to the state prison shall be regularly employed at and be compelled to perform a reasonable amount of hard labor in some industrial employment; and no person so committed, as aforesaid, shall be exempt from such labor and employment, unless on account of incapacitating sickness or other disability rendering it impossible that such labor be performed.

SEC. 3. The employment of convicts in the state prison shall in all respects be governed by the provisions of this chapter, and shall be conducted as specified in the succeeding sections hereof.

SEC. 4. Subject to the qualifications and regulations in this chapter specified, the manager shall be empowered and required to provide for the employment of such convicts in one or more of three (3) different systems of employment. One usually known as and to be designated the "State Account System," another usually known as and to be designated the "Contract System," and a third usually known as and to be designated the "Piece Price System." *Providing*, that said convicts shall be employed as much as practicable under the State Account System.

SEC. 5. In providing for and regulating the labor of the convicts under these systems of employments, the warden shall, in classifying and apportioning the prisoners to the work, in all cases have in view, as well the education and reformation of the individual convict as the pecuniary welfare of the state, and shall, under such rules and regulations as shall have been prescribed by the board of managers, have authority to change any convict from one class of employment to another, as may seem proper and expedient.

SEC. 6. All or a portion of the prison shops, and such vacant grounds as the board of managers deem proper, and which are not needed to carry on industrial employment under the State Account or Piece Price systems, may be leased by the board of managers to parties from whom such

board obtains the highest and best price, and for such length of time, not to exceed two (2) years, as the board may deem for the interests of the state.

SEC. 7. The managers may, if in their judgment they deem it proper and expedient, let to service under the Piece Price or Contract system, or both, not to exceed one-half ($\frac{1}{2}$) of all able bodied convicts confined in the prison at the date of such contract or contracts to the lessee or lessees of the prison shops, or to any person or corporation, such lease to be made in accordance to the law on the subject of prisons, including this chapter, and not to exceed the term of two (2) years. Such convicts shall not be leased to any contractor or lessee for less than the sum of forty-five (45) cents per day for actual work. *Provided*, that such lease shall not be a lease of individual convicts for any specified time, so as to preclude the withdrawal of any convict and the substitution in his place of another, when deemed for the best interests of the convict, under such rules and regulations as shall have been established by the board of managers, or otherwise provided by law.

SEC. 8. Whenever the board of managers shall deem it expedient and proper to enter into a contract or lease the prison shops or any portion thereof, or the prison grounds or any portion thereof, to any person or persons, corporation or corporations, who may desire to rent the same, and employ convicts therein, it shall be the duty of said board of managers to pass a resolution to that effect, specifying the number of convicts whose labor and services are to be let, the time the contract shall commence, and the length of time it shall continue, together with the shop-room, yard-room, machinery, and other facilities which are to be let. Upon the passage of such resolution, the board of managers shall cause the same, together with a call for sealed bids or proposals, to be published in a newspaper printed and published in the county where the prison is situated, and in a newspaper printed and published at the state capitol, for a period of three (3) weeks next preceding the time fixed in such notice for opening such proposals. The board shall also prepare a duplicate form of the contract to be entered into, with the date of the commencement and length of continuance of the contract, specifying the class or classes of industrial employment upon which bids will be received, and, in blank, the amount bid for the rent of shops, grounds, or fixtures specified therein; the amount bid per day for the labor of the convicts to be leased, and the name of the contractor or contractors and their sureties, a copy of which shall be deposited at the prison with the warden for the inspection of all persons desirous of making bids or proposals therefor, for at least the period of twenty (20) days prior to the time fixed in said notice for the opening of such proposals. The warden shall receive and preserve, unopened, all the sealed proposals for said leasing of said shops, grounds, labor, and services which shall be delivered to or received by him up to the day and hour mentioned in the public notice, and no longer, and shall thereupon, or as soon thereafter as the board of managers shall convene, lay such proposals before the board of managers, who shall proceed publicly at once to open and canvass such of them as shall be substantially in the form prescribed in the published notice, and as shall be accompanied by an offer to enter into the contract prepared, as aforesaid, with the names of the bidders, kind and character of industrial employment in which the convicts will be employed, the amount bid for the rent of shops, grounds, fixtures, etc., proposed to be leased, the price per day for the labor and services of the convicts proposed to be paid, and also the names of two (2) or more sufficient sureties, accompanied by their written consent to be sureties in such contract, and shall award the contract to the person or corporation who shall have brought himself or itself within the terms of the contract proposed, and shall be found by said canvass to be on the whole the highest bidder therefor. *Provided*, that no bids shall be entertained which shall be for less than forty-five (45) cents per day per convict for work to be performed by the convicts. The managers shall thereupon cause a written contract to be properly executed in duplicate by the warden and person or corporation contracting, and the person or corporation to whom the contract is awarded shall execute to the warden a good and

sufficient bond with two (2) or more sureties to be approved by the board conditioned for the full performance of the contract on the part of such person or corporation, which bond shall be delivered to the board of managers, and thereupon the said contracts shall be valid in law between the parties thereto. And the said board of managers shall have power to direct the enforcement of the same. This section shall be construed to allow and authorize the said board of managers to let a part of the convicts to one person or corporation and a part to other persons or corporations, if they shall deem it for the best interests of the convicts and the state.

SEC. 9. If, upon opening such proposals mentioned, in the preceding section, the said managers shall deem it for the best interest of the state not to award such contract to any such bidders, they may reject all such proposals, and, if they see fit, readvertise the same; and if, after awarding such contract or contracts to any bidder or bidders who shall have refused or neglected to enter into any such contract, the said managers shall not deem it for the interest of the state to award the same to any person or corporation bidding a lower rate of compensation, they may reject all lower bids and readvertise; and any bidder whose proposal shall have been accepted by the managers, and who shall have refused to enter into such contract, shall be liable for all expenses of readvertisement in addition to all damages by reason of such refusal or neglect.

SEC. 10. In every contract made pursuant to the authority herein conferred, there shall be reserved to the warden, under such rules and regulations as shall have been established by the board of managers, full power and authority to prevent the demanding or imposition of unusual or severe labor whereby the health and welfare of the convicts may be impaired, or their reformation and education may be hindered or retarded; and the said warden may, from time to time, subject to the approval of the board, prescribe all needful rules for the government and conduct of all contractors, their overseers and agents, in relation to the convict, and may require summary dismissal of any individual employed by any contractor in said prison, whenever it shall appear that the presence or the conduct of such individual is prejudicial to the discipline of the prison or the welfare of the convicts.

SEC. 11. In case the board of managers deems it proper to advertise for sealed proposals for the lease of shops, yard room, fixtures, etc., separately from proposals for bids for the labor of convicts, they shall have power and authority so to do, and they shall also have power and authority to advertise for bids for the labor of convicts separately from proposals for the lease of shops, yard room, or fixtures, keeping in view the interests of the state in the premises.

SEC. 12. The rents, revenues, and profits derived from the leasing of the prison shops, yard room, fixtures, and convict labor, shall be paid to the warden, and by him paid to the prison treasurer.

SEC. 13. All the able-bodied convicts in the state prison may [be] employed in industrial labor on state account in such manner and in such trades, occupations, or industries, as to the said board shall be deemed for the best interests of the convicts and the state. The board, in its discretion, may provide for one trade or industry, or may establish a number of trades or industries, and the warden is authorized and empowered, by and with the advice and approval of the board, to purchase all needed tools and machinery for conducting such trade or trades, industry or industries, as the board may see fit to establish. He shall, with like approval, also be vested with power and authority to purchase in the market all supplies and material needed in the manufacture of any article or articles in which manufacture the board may decide to engage the convicts or any portion thereof, and shall also have authority to sell and dispose of, to the best advantage of the state, all articles of manufacture produced by the labor of convicts under such system. *Provided, however,* that the board shall first employ as many of the convicts as may be found practicable in the manufacture of articles which the state would otherwise necessarily purchase for the state prison and other state institutions.

SEC. 14. Said board shall direct the warden to keep or cause to be kept a true and correct account of all moneys expended and received, and the

purpose for which expended and the sources from which received; and annually, on or before the first (1st) day of October, he shall render to the board of managers a full and accurate account of all business transactions had during the year, together with a statement of moneys expended and received and stock on hand; also a statement of all articles manufactured by convicts for the use of the prison and other state institutions, and the market value of the same at the time the same were furnished to such prison and other institutions, and accounts of the receipts and expenditures of the different systems of employment hereinbefore specified shall be kept separate and distinct from each other.

SEC. 15. Neither the managers, warden, nor any officer of the prison, shall directly or indirectly [be] personally interested in or be connected with any business carried on in or about the prison, nor in any contract or lease, nor in any article manufactured by the convicts under any contract or lease by the managers to any person or corporation.

SEC. 16. There is hereby appropriated for the purpose of procuring tools, machinery, and material for conducting industrial employment under the state account system, out of any money in the state treasury not otherwise appropriated, the sum of seventy-five thousand (75,000) dollars, or so much thereof as may be necessary.

SEC. 17. Chapters one hundred and ninety-seven (197) and one hundred and sixty-six (166) of the General Laws of one thousand eight hundred and eighty-seven (1887,) and all other acts and parts of acts inconsistent herewith are hereby repealed.

Approved April 24, 1889.

CHAPTER 10.

AN ACT TO COMPEL EMPLOYERS OF FEMALES TO FURNISH SEATS FOR SUCH EMPLOYEES, AND TO PRESCRIBE PENALTIES FOR VIOLATION THEREOF.

SECTION 1. It shall be the duty of all employers of females in any mercantile, manufacturing, hotel or restaurant, business or occupation, and of every agent in charge of any such business or occupation, to provide and maintain, in the room or place where such females are being employed, suitable seats for the use of such female employees, and to permit the use of such seats by such employees to such an extent as may be necessary for the preservation of their health.

SEC. 2. The certificate or testimony of any regularly licensed and practicing physician to the effect that, in his opinion, any person or corporation in this state, or any agent of such person or corporation, is not complying with the provisions of section one (1) of this act in respect to any specified employe or employees, shall be *prima facie* evidence of the violation by such person, corporation, or agent of the provisions of this act, and it shall be the duty of the State Labor Commissioner, whenever he is informed of the violation of any of the provisions of this act, to cause the matter to be at once brought to the attention of the proper authorities and to assist in furnishing evidence of such violation; but nothing herein contained shall be construed to prevent any other person from making such complaint and furnishing such evidence, nor to interfere with the discharge of their lawful duty by all state and county officers.

SEC. 3. Every person who shall violate any of the provisions of this act shall, for each and every day of such violation, be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by fine of not less than ten (10) dollars nor more than twenty-five (25) dollars, or by imprisonment for not less than ten (10) days nor more than thirty (30) days, or both, in the discretion of the court.

SEC. 4. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

Approved March 19, 1889.

CHAPTER 204.

AN ACT TO FIX THE AMOUNT OF WAGES OF LABORERS EXEMPT FROM PROCESS OF ATTACHMENTS, GARNISHMENTS, OR EXECUTION.

SECTION 1. The wages of any person, or of the minor children of any person, in any sum not exceeding twenty-five (25) dollars due for any services rendered by any such person, or the minor children of any such person, for any other person during thirty (30) days preceding the issue of any process of attachment, garnishment, or execution, in any action against any such person or persons, shall be exempt from such process.

SEC. 2. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

Approved April 16, 1889.

CHAPTER 86.

AN ACT FOR THE BETTER PROTECTION OF THE WAGES OF MECHANICS, CLERKS, LABORERS, AND OTHERS.

SECTION 1. That all moneys that may be due, or shall hereafter become due, for labor or services rendered by any mechanic, clerk, laborer, or servants from any person or persons, or chartered company employing mechanics, clerks, laborers, or servants, either as owners, lessees, contractors, or under owners of any works, manufactory, or other business of whatever description where mechanics, clerks, laborers, or servants are employed, whether at so much per diem or otherwise, for any period not exceeding six (6) months immediately preceding the sale and transfer of such works, manufactory, or business or other property connected therewith in carrying on said business, by executors or otherwise, or preceding the death or insolvency of such employer or employers, shall be a lien upon said works, manufactory, business, or other property in and about or used in carrying on said business, or in connection therewith, to the extent of the interest of said employer or employers, owners, or contractors, as the case may be, in said property, and shall be preferred and first paid out of the proceeds of the sale of such works, manufactory, business, or other property, as aforesaid. *Provided*, that [the] portion of such preferred claim of such mechanic, clerk, laborer, or servant thus preferred shall not exceed two hundred (200) dollars; and *provided, further*, that this act shall not be construed so as to impair contracts vested or liens of record existing prior to its passage. And *provided, further*, that no such claim shall be a lien upon any real or personal estate unless the same shall be filed, if real estate, in the office of the register of deeds of the county in which such real estate is situated, within one month after the claim becomes due, in the same manner as mechanics' liens are now filed, and if upon personal property, such claims shall be filed in the office of the clerk of the town or city in which said property is situated, in the manner provided for the filing of chattel mortgages therein.

SEC. 2. In all cases of executions, attachments, and writs of a similar nature hereafter to be issued against any person or persons, or chartered company engaged, as before mentioned, it shall be lawful for such mechanics, clerks, laborers, or servants to give notice, in writing, of their claim or claims, and the amount thereof, to the officers executing either of such writs, at any time before the actual sale of the property levied upon; and such officers shall pay to such mechanics, clerks, laborers, and servants, out of the proceeds of sale, the amount each is justly and legally entitled to receive, not exceeding two hundred (200) dollars, as may be agreed on by the parties in interest or by the judgment of any court of competent jurisdiction.

SEC. 3. In all cases of the death, insolvency, or assignment of any person or persons or chartered company engaged in operations, as hereinbefore mentioned, or of executions issued against them, the lien or preference mentioned in the first section of this act, with the like limitations and powers, shall extend to all the property of said persons or chartered company.

SEC. 4. That no mortgage or other instrument, by which a lien is hereafter created, shall operate to impair or postpone the lien and preference given and secured to the wage and moneys mentioned in the first (1) section of this act. *Provided*, that no lien of mortgage or judgment entered before such labor is performed shall be affected or impaired thereby.

SEC. 5. Any verbal or written agreement, express or implied, made by or between any person or persons, or chartered company or companies, designed to act as a waiver of any right under this act or any portion thereof, shall be wholly null and void.

SEC. 6. All statutes or portions of statutes inconsistent with the provisions of this act are hereby repealed.

Approved March 7, 1878.

CHAPTER 199.

AN ACT GIVING LIENS FOR THE BETTER SECURITY OF MECHANICS, LABORERS, AND OTHERS WHO PERFORM WORK AND LABOR OR FURNISH MATERIAL OR PERSONAL PROPERTY.

SECTION 1. Whoever makes, alters, repairs, or bestows labor or furnishes material, or any article of personal property at the request of the owner or legal possessor thereof, shall have a lien on such property so made, repaired, altered, or upon which labor has been bestowed, for his just and reasonable charges for the labor he has performed, and the material he has furnished; and such person may hold and retain possession of the same until such just and reasonable charges are paid. If they are not paid within three (3) months after the labor is performed or the material furnished, the person having such lien may proceed to sell the property by him so made, altered, or repaired, or upon which labor has been bestowed, at public auction, by giving public notice of such sale by advertisement for three (3) weeks in some newspaper printed and published in the county, or if there is none, then by posting up notice of such sale in three (3) of the most public places in the county three (3) weeks before the time of sale. The proceeds of such sale shall be applied first (1st) to the discharge of such lien and the cost and expenses of keeping and selling such property, and the remainder, if any, shall be paid over to the owner thereof.

SEC. 2. Any person who is a common carrier, and any person who, at the request of the owner or lawful possessor of any personal property, carries, conveys, or transports the same from one place to another, and any person who safely keeps or stores any personal property, and any keeper of a livery or boarding stable for horses, mules, cattle, or stock, and any person who pastures or keeps the same, at the request of the owner or lawful possessor thereof, shall have the same lien for his charges for carrying, transporting, storing, keeping, supporting, and caring for such property, and the same right to hold and retain possession thereof, and the same power of sale for the satisfaction of his reasonable charges and expenses upon the same conditions and restrictions as provided in the preceding section.

SEC. 3. That sections sixteen (16) and seventeen (17) of chapter ninety (90) of the General Statutes of one thousand eight hundred and seventy-eight (1878) of the state of Minnesota, and all acts and parts of acts amendatory thereof, be and the same are hereby repealed; and all acts and parts of acts inconsistent with this act are hereby repealed. *Provided*, that this act shall not affect any right existing or suits pending when it shall take effect. *Provided, further*, that proceedings begun to enforce liens after this act shall take effect shall conform, as far as practicable, to the provisions of this act.

Approved April 24, 1889.

CHAPTER 200.

AN ACT GIVING LIENS FOR THE BETTER SECURITY OF MECHANICS, MATERIAL MEN, LABORERS, AND OTHERS.

SECTION 1. Whoever performs labor or furnishes skill, material, or machinery for the construction, alteration, or repair of any boat, vessel, or other water craft, or for the erection, alteration, repair, or removal of any house, mill, manufactory, or other building or appurtenance, or of any fixture, bridge, wharf, fence, or other structure, by virtue of a contract with, or at the instance of the owner thereof, or his agent, trustee, contractor, or subcontractor, shall have a lien to secure the contract price or value of the same upon such boat, vessel, or other water craft, or upon such house, mill, manufactory, or other building or appurtenance, or fixture, bridge, wharf, fence, or other structure, and upon the right, title, and interest of the owner thereof, in and to the land upon which the same is situate, or to which it may be removed, not exceeding forty (40) acres, if without the corporate limits of any city or incorporated village; and if situate upon or removed to land within the corporate limits of any city or incorporated village, then in and to the lot of land upon which the same is situate, or to which it may be removed, not exceeding one (1) acre in extent.

SEC. 2. Whoever performs labor or furnishes skill, material, or machinery for grading, filling in, or excavating any land, or for digging, constructing, altering, or repairing any ditch, drain, well, fountain, cistern, reservoir, or vault thereon, or for laying, constructing, altering, or repairing any sidewalk, curb, gutter, or any sewer, water-pipe, or gas-pipe, whether mains or connections, upon any land, or in the half of the highway, street, or alley adjacent and contiguous to said land, by virtue of a contract with or at the instance of the owner thereof, or his agent, trustee, contractor, or subcontractor, shall have a lien to secure the contract price, or value of the same, upon the right, title, and interest of the owner of such grading, filling in, or excavation, ditch, drain, well, fountain, cistern, reservoir, vault, sidewalk, curb, gutter, sewer, water-pipe, or gas-pipe, whether mains or connections, in and to the land upon which the same has been done or is situate, or in and to the land adjacent and contiguous to the half of the highway, street, or alley, in which such sidewalk, curb, gutter, sewer, water-pipe, or gas-pipe, whether mains or connections, has been laid, constructed, altered, or repaired, not exceeding forty (40) acres, if without the corporate limits of any city or incorporated village, and if done or situate upon land, or in the half of the highway, street, or alley adjacent and contiguous to land within the corporate limits of any city or incorporated village, then in and to the lot of land upon which the same has been done or is situate, or in and to the lot of land adjacent and contiguous to the half of the highway, street, or alley in which such sidewalk, curb, gutter, sewer, water-pipe, gas-pipe, whether mains or connections, has been laid, constructed, altered, or repaired, not exceeding one (1) acre in extent.

SEC. 3. Whoever performs labor or furnishes skill, material, or machinery for the construction, alteration, or repair of any line of railway, or of any telegraph line, depot, bridge, fence, or other structure appertaining to any line of railway, or for the construction, alteration, or repair of any line of telegraph, telephone, electric light, gas-pipe, or subway conduit, or of any fixture or structure appertaining to any such line, by virtue of a contract with or at the instance of the owner thereof, his or its agent, trustee, contractor, or subcontractor, shall have a lien to secure the contract price, or value of the same, upon such line of railway, telegraph line, depot, bridge, fence, or other structure appertaining to such line of railway, or upon such line of telegraph, telephone, electric light, gas-pipe, or subway conduit, or fixture or structure appertaining to such line, and upon all franchises, privileges, and immunities, and all right of way or of appertaining to any of the several lines aforesaid.

SEC. 4. Whenever the owner of land has sold the same upon an executory contract of sale contingent upon or providing for the erection, con-

struction, alteration, removal to, or repair upon such land by the vendee thereof of any house, mill, manufactory, or other building or appurtenance, or of any fixture, wharf, fence, or other structure, if the vendee or his assigns shall forfeit or surrender such contract, then, for the purpose of establishing and enforcing a lien for all labor, skill, material, or machinery, performed or furnished by other persons, for or to such vendee or his assigns, under contract or subcontract for such erection, construction, alteration, removal, or repair, such vendee shall be deemed the owner of such house, mill, manufactory, or other building or appurtenance, or fixture, wharf, fence, or other structure, and such vendee his contractor within the meaning of this act. But no such vendor shall be personally liable for any indebtedness so contracted by such vendee.

SEC. 5. Every house, mill, manufactory, or other building or appurtenance, and every structure or other improvement mentioned in sections one (1) and two (2) of this act, (excepting boats, vessels, or other water craft,) erected, constructed, altered, removed to, or repaired upon any land, with the knowledge of the owner of such land, or of any person having or claiming an interest therein otherwise than as a *bona fide* prior mortgagee, incumbrancer, or lienor, shall be held to have been erected, constructed, altered, removed, or repaired at the instance of such owner or person, so far only as to subject his interest to a lien therefor, as in this section provided, and such interest, so owned or claimed, shall be subject to any lien given by the provisions of this act, unless such owner or person shall, within five (5) days after he shall have obtained knowledge of the erection, construction, alteration, removal, or repair aforesaid, give notice that his interests shall not be subject to any lien for the same by serving a written or printed notice to that effect personally upon all persons performing labor or furnishing skill, material, or machinery therefor, or shall, within five (5) days after he shall have obtained the knowledge aforesaid, or knowledge of the intended erection, construction, alteration, removal, or repair aforesaid, give such notice, as aforesaid, by posting and keeping posted a written or printed notice to the effect, aforesaid, in some conspicuous place upon said land or upon the building or other improvement situate thereon. But no lien shall be allowed as against a lessor for repairs made by or at the instance of a lessee, and nothing in this section contained shall apply to such vendor as is mentioned in section four (4) of this act.

SEC. 6. In all cases where the labor, skill, material, or machinery referred to in sections one (1), two (2.) and three (3) of this act shall be furnished by any person other than the original contractor with such owner, or his agent or trustee, the lien shall not exceed the actual value of the labor, skill, material, or machinery so furnished.

SEC. 7. Whenever any contractor, subcontractor, or other person shall perform labor or furnish skill, material, or machinery for the erection, construction, alteration, removal, or repair of two or more buildings or structures united together and situate upon the same lot or contiguous lots, or of separate buildings upon contiguous lots, in either case under or pursuant to the purposes of one general contract with the owner or joint owners of the lot or lots and of such improvements thereon, or with the person or persons whose interest therein may be charged with a lien under this act, it shall not be necessary to file a separate lien upon each building or structure for the labor so performed thereon, or for the skill, material, or machinery so furnished therefor, nor in case a separate lien is not so filed, to apportion the amount of the entire lien claimed between the several buildings or structures.

SEC. 8. Any person, copartnership, or corporation, claiming lien under this act, and wishing to avail himself of the benefits thereof, and to continue such lien, shall make a statement in writing setting forth:

1. The amount actually due and owing him after allowing all just credits and offsets. (The separate items of the account need not be stated.)

2. That such amount is due and owing for labor performed, or for skill, material, or machinery furnished, or for one or more of them; and in what erection, construction, alteration, repair, removal, digging, or laying, as the case may be, the same was performed or furnished.

3. The time when the first and last item of such labor, skill, material, or machinery, as the case may be, was furnished.

4. A description of the property to be charged with the lien.

5. The name of the owner or reputed owner, at the time of making said statement, of the property charged with the lien, according to the best information then had.

6. A notice of intention to claim and hold such lien.

Said statement shall be verified by the oath of the person claiming the lien, or by his agent, or by one having knowledge of the facts, and shall, within ninety (90) days from the time of furnishing of the last item of such labor, skill, material, or machinery, be filed in the office of the register of deeds in and for the county in which the premises charged with the lien are situate; and in case such labor, skill, material, or machinery shall have been furnished for the construction, alteration, or repair of any boat, vessel, or other water craft, or of any line of railway, or any telegraph line, depot, bridge, fence, or other structure appertaining to any line of railway, or for the construction, alteration, or repair of any line of telegraph or telephone, or of any fixture or structure appertaining to any such line, said statement shall be filed, within the time aforesaid, in the office of the secretary of state.

Said statement, when so verified, shall be recorded in the office where it is filed, as aforesaid, at length in the records thereof, and shall operate to continue such lien during all the period of time, from the time of the furnishing of the first item of such labor, skill, material, or machinery, until the expiration of one (1) year after the time of furnishing the last item of the same.

SEC. 9. The validity of the lien shall not be affected by any inaccuracy in the statement relating to the property to be charged with it, if such property can be reasonably recognized from the description, nor by any inaccuracy in the statement of the name of the owner or reputed owner of such property, nor by any inaccuracy in stating the amount due for labor, skill, material, or machinery, unless it appears that the person claiming the lien has wilfully and knowingly claimed more than is due. *Provided*, that in no case shall a lien exist for a greater amount than that claimed in said statement.

SEC. 10. Any person having a lien, given by the provisions of this act, may proceed to obtain judgment and enforce the same, in the same manner as in actions for the foreclosure of mortgages upon real estate, except as otherwise herein provided.

Every such action to enforce any such lien shall be commenced within one (1) year from the time of furnishing the last item of labor, skill, material, or machinery for which such lien is had.

At the time of the commencement of such action a notice of *lis pendens* shall be filed, as provided by law, in the office of the register of deeds in and for the county in which such action is brought, and, except in cases where the lien statement shall have been filed in the office of the secretary of state, as in this act provided, in each and every county in which the property, or any part thereof, affected by such action is situate.

In all cases no pleadings or copies thereof need be served on demand or otherwise, but the several pleadings in such action shall be filed by the parties thereto, in the office of the clerk of the district court in and for the county wherein the action is brought. The complaint shall be so filed at the time of issuing the summons in such action.

The summons shall require the defendant so to file his answer within twenty (20) days after the service of such summons, exclusive of the day of service, and shall notify him that the complaint has been filed with the clerk of said court, and that such action is for the foreclosure of a mechanic's lien.

Every party to such action claiming a lien under this act shall attach to his complaint or answer, and file therewith a bill of particulars of the items of his lien-claim, verified by his oath, or that of his agent, or of some one having a knowledge of the facts, or be precluded from giving evidence thereof. The court may order a further and more particular bill.

In any such action all persons who have liens, given by the provisions of

this act, filed of record upon the same property or any part thereof, shall be made parties defendant. The complaint in such action shall ask the determination and adjudication of the amount and validity of all such lien-claims.

Each defendant in such action shall answer, setting up any defense to to the plaintiff's claim, and, also, as in a complaint, the amount and nature of the lien claimed by such defendant, and asking that the same be determined, adjudicated, and foreclosed in said action. Against any defendant failing to answer, judgment shall be rendered denying him any relief in such action, and he shall be thereby debarred from afterwards setting up or asserting his said lien; but his claim upon the person with whom the contract was made shall not be thereby impaired. All the allegations of each answer in such action shall be deemed to be controverted, as upon a direct denial or avoidance, as the case may require, without further pleading.

At the trial of such action the amount and validity of all such liens, as aforesaid, shall be determined and adjudged; and if it shall appear to the court, at any time before final judgment, that other liens have been filed, or will thereafter be filed, under the provisions of this act, upon or against the same property or any part thereof, or that there are other persons who ought to be made parties to such action, the court, upon its own motion, or upon motion of any party or of any person claiming such lien, or upon motion of any such other person who ought to be made a party, may continue such action, or delay trial thereof or judgment therein, for the purpose of bringing in and making all lien claimants upon such property, or such other persons parties to such action. Any person entitled to a lien, given by the provisions of this act, whose claim is not due or payable at the time of the commencement of an action by any other person or persons, to enforce their liens, shall be permitted to become or to be made a party to such action; and the claim of such person may be allowed, subject to discount for the period to elapse between the date of the judgment and the maturity of such claim. After the commencement of and before final judgment in any such action to foreclose any such lien, as aforesaid, upon any certain property, no other such action to foreclose any other such lien upon the same property, or any part thereof, shall be commenced; but the claimant of any other such lien, not a party to such action firstly commenced, shall apply to be made, and shall be admitted a defendant in the action last mentioned. And if he shall, nevertheless, commence such other action, the same shall be consolidated with and merged in the action firstly commenced, upon motion of any party to the earlier action, or by the court upon its own motion. In rendering judgment in such action the court shall first determine the amount of the lien claim to which each subcontractor is entitled, and direct judgment in favor of such subcontractor for the amount so determined: the court shall then determine the amount to which the contractor, with whom each subcontractor shall have made his contract, is entitled, over and above the amount of the liens of such subcontractors, and direct judgment for such excess only in favor of such contractor. But if, after judgment, any original contractor shall pay the amount so adjudged to be due to such subcontractor, such original contractor shall be subrogated to the rights of such subcontractor. Any judgment rendered in such action shall specify the amount of every such lien, and by whom it is held or owned, and shall order the sale of the premises covered by all such liens to satisfy the same. Such judgment shall require the officer to pay over and distribute the proceeds of the sale, after deducting all lawful charges and expenses, to and among the several creditors, including such subsequent lien claimants, if any, as are hereinafter mentioned, to the amount of their several claims, if there is sufficient therefor; and if there is not sufficient, then to divide and distribute the same among the creditors in proportion to the amount due to each, and without priority among themselves.

If, at any time after judgment and before sale or distribution, it shall be made to appear to the court that any lien claimant, having a lien

which might properly have been foreclosed in said action and provided for by said judgment, has, without fault on his part, omitted to assert the same, or to apply to be made a party to said action, the court shall, by its further order or orders, delay such sale or distribution, as the case may be, for the purpose of admitting, and shall, upon due proof of such lien-claim, in manner as the court may direct, admit such claimant to a participation in the proceeds of such sale or distribution, in all respects as if he had been a party to said action, and had therein duly established his said claim.

In case the property covered by such lien or liens will not sell upon execution, as provided by law in other cases, having been once duly offered, the court may order the property into the hands of a receiver, to be leased or rented, from time to time, under the direction of the court, until the lien or liens shall be discharged, or make such other order or disposition of the property as shall to right appertain.

SEC. 11. When judgment is obtained establishing any lien, given by the provisions of this act, upon any line of railway, telegraph, telephone, electric light, gas-pipe, or subway conduit, such line of railway, together with all telegraph lines, depots, bridges, fences or other structures appertaining to such line of railway, or such line of telegraph, telephone, electric light, gas-pipe, or subway conduit, together with all fixtures or structures appertaining to such line, and together with all franchises, privileges, immunities, and all right of way of or appertaining to any of these several lines aforesaid, may be sold upon execution to satisfy such judgment.

The purchaser thereof, at any such sale, shall have and hold, all and singular, the same, in the same manner and with the same effect, as the same were had and held by the judgment debtor. Such sale shall be conducted in like manner, and be upon like notice, and be subject to like redemption as sales of real property upon execution, except that in the case of the sale of any line of railway or telegraph, as aforesaid, the notice of sale, required by law to be published in a newspaper, shall be published in some newspaper published at the capitol of the state.

SEC. 12. If the building or other improvement erected, or constructed, is so constructed as to be movable from the premises without material injury thereto, the court may direct the same to be sold to satisfy any lien given by the provisions of this act, and the purchaser may, under the direction of the court, remove such building or improvement from the premises within sixty (60) days after such sale.

SEC. 13. Upon the sale of any real property, under the provisions of this act, when the interest or estate sold is a leasehold of less than two (2) years, unexpired term, from the time of such sale or is at the time of such sale the interest or estate of a vendee of such property under an executory contract of sale, the conditions of which are to be performed within two (2) years from the date of the contract, the sale is absolute; in all other cases the property sold is subject to redemption as provided by law.

SEC. 14. Any subcontractor or person, other than the original contractor, who performs any labor or furnishes any skill, material, or machinery, or who has agreed so to do, for which a lien is or may be given by the provisions of this act, may at any time serve or cause to be served upon the owners of the premises, or upon the person whose interest therein is or may be charged with such lien, or upon the authorized agent of either, a notice in writing.

Such notice to be substantially in the following form:

To _____ : You are hereby notified, that I have (being employed by, or have contracted with) _____, to (here state whether to perform labor or furnish skill, material, or machinery, or both, and substantially the nature of the undertaking or demand) upon your (here state the building or other structure or improvement, and where situate, in general terms;) and that I shall hold the (building, or as the case may be,) and your interest in the land liable for

the amount that (is or may become) due me on account thereof. That said amount (is or will be, here state the amount as nearly as may be.)

.....
Signature.

Date.....

No such notice shall be invalid by reason of any defect of form, *provided*, it is sufficient to inform the owner or such person or persons, as aforesaid, of the substantial matters as set forth in the form herein above given. Such notice shall be verified by the oath of such subcontractor or that of his agent. Such notice shall be served by delivering the same to the owner or to such person, as aforesaid, or to the authorized agent of either, personally, or in case such owner, person, or agent cannot be found in the county in which such improvement is made and has no residence therein, then by posting such notice, and keeping it posted in a conspicuous place upon the premises of the owner or such person, as aforesaid. Upon such notice being served, the owner or such person, as aforesaid, or the agent or either shall, and it shall be his duty to withhold from the original contractor, out of the money due or that may become due to him, an amount sufficient to answer the sum of money claimed in such notice to be due or to become due, and any lien that may be filed therefor. Such an amount, as aforesaid, shall be so withheld until such notice is by writing withdrawn, by the party so having given the same. But failure by any such subcontractor or person, other than the original contractor, as aforesaid, to give such notice, shall not defeat his lien or right of lien under this act.

SEC. 15. The taking of a promissory note or other evidence of indebtedness, for labor performed, or skill, material, or machinery furnished, under the provisions of this act, shall not discharge the lien thereby given for the same, unless expressly received in payment therefor, and so specified in such note or other evidence of indebtedness.

SEC. 16. Any contractor or subcontractor who shall purchase material on credit, and represent, at the time of said purchase, that the same is to be used in a designated building or other improvement, and shall thereafter use, or cause to be used, the said material in the construction of any building or improvement other than that designated when purchased, with intent to defraud the person from whom the material was purchased, without first having given due notice to, and obtained written consent from, the person from whom the material was purchased, shall, upon conviction thereof, be punished by a fine not exceeding five hundred (\$500) dollars, or by imprisonment not exceeding six (6) months, or both, in the discretion of the court.

SEC. 17. Executors and administrators under this act have the same rights, and are subject to the same liabilities, that their testator or intestate, if living, would have or might be subject to.

SEC. 18. Every person who has received satisfaction of his debt or tender of the amount thereof, with all costs of action brought thereon, or of any judgment recovered therefor, for which he has filed any such claim for lien, or after final judgment against him by a competent tribunal in an action thereon, or after the expiration of the time limited by this act for the commencement of action thereon without action being begun, shall, at his own cost, at the request of any person interested in the property affected by such lien, or who is interested in having such lien removed, or of his legal representatives, release and discharge such lien of record; and if he neglects so to do for ten (10) days after request in writing, he shall forfeit and pay twenty-five (25) dollars to the person requesting such satisfaction and discharge, to be recovered in a civil action, and shall be liable to any person injured to the extent of his injury.

All liens, given by the provisions of this act, shall be released and discharged in the office where recorded in the same manner as is now provided by law for the release and discharge of mortgages upon real property.

SEC. 19. That sections one (1,) two (2,) three (3,) four (4,) five (5,) six (6,) seven (7,) eight (8,) nine (9,) ten (10,) eleven (11,) twelve (12,) thirteen

(13,) fourteen (14,) fifteen (15,) eighteen (18,) nineteen (19,) twenty (20,) and twenty-one (21) of chapter ninety (90,) of the General Statutes of one thousand eight hundred and seventy-eight (1878) of the state of Minnesota, and all acts and parts of acts amendatory thereof, be and the same are hereby repealed; and all acts and parts of acts inconsistent with this act are hereby repealed. *Provided*, that this act shall not affect any rights existing or suits pending when it shall take effect. *Provided, further*, that proceedings begun to enforce liens, after this act shall take effect, shall conform, as far as practicable, to the provisions of this act.

SEC. 20. That this act shall take effect and be in force from and after the first (1st) day of October A. D. one thousand eight hundred and eighty-nine (1889.)

Approved April 24, 1889.

CHAPTER 13.

AN ACT TO DEFINE THE LIABILITIES OF RAILROAD COMPANIES IN RELATION TO DAMAGES SUSTAINED BY THEIR EMPLOYEES.

SECTION 1. Every railroad corporation owning or operating a railroad in this state shall be liable for all damages sustained by any agent or servant thereof by reason of the negligence of any other agent or servant thereof, without contributory negligence on his part, when sustained within this state, and no contract, rule, or regulation between such corporation and any agent or servant shall impair or diminish such liability.

Provided, that nothing in this act shall be so construed as to render any railroad company liable for damages sustained by any employee, agent, or servant while engaged in the construction of a new road, or any part thereof, not open to public travel or use.

Approved February 24, 1887.

CHAPTER 16.

AN ACT TO PROVIDE FOR THE BETTER PROTECTION OF RAILROAD SWITCHES.

SECTION 1. Any person or persons, railroad companies or corporations, owning or operating any railroad or railroads in this state, shall be and are hereby required, on or before the first (1st) day of June A. D. one thousand eight hundred and eighty-seven (1887,) to so adjust, fill, block, and securely guard the frogs, switches, and guard rails on their roads in all yards, divisional and terminal stations, so as to thoroughly protect and prevent the feet of employees and other persons from being caught therein.

SEC. 2. Any person or persons, railroad company or corporation, owning and operating a railroad in this state, who shall fail to comply with the provisions of this act, shall be fined in a sum of not less than five hundred (500) dollars nor more than two thousand (2,000) dollars, in the discretion of the court, for each offense, and the neglect of any such person, company, or corporation to comply with the provisions of this act, shall be deemed a violation of the same.

SEC. 3 All railroad companies owning or operating railroads or portions of railroads in this state, shall, in addition to the penalties prescribed in this act, be liable for any damage resulting from the failure to comply with the provisions thereof, such damage to be recovered by the persons injured or his or her legal representatives.

Approved March 7th, 1887.

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